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(Continuing the Bulletin of the Association of American Medical Colleges)

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JOURNAL
OF THE
Association *of* American Medical Colleges

Volume 13 JULY, 1938 Number 4

The Introductory Course in Clinical Medicine*

GEORGE D. BARNETT
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Stanford University School of Medicine
San Francisco, California

The principal content of a beginning course in clinical medicine must be physical diagnosis. Whether we shall include more than that, and how much more, are matters to be determined by the special teaching problems of the school. If we have any special problem at Stanford it derives from the fact that we place our third year students in the wards as clinical clerks. Furthermore, as we are a so-called split school, the students reach us in the second trimester of their second year perfectly green and innocent of any clinical knowledge. In most schools, through association with upper classmen and through the atmosphere of hospital and clinic which pervades his life, the student by this time has acquired a considerable clinical vocabulary and a fair knowledge of the things doctors think about and do. Our students have not had the benefit of this extracurricular preparation, and it is our problem to transform these blank specimens in six months into men capable of doing the things clinical clerks on the wards are expected to do. Manifestly, this cannot be done in the time at our disposal; but in the attempt to bridge the gap as well as possible it has seemed advisable to include in the second year course somewhat more than physical diagnosis.

The course in introduction to medicine is given at the San Francisco Hospital by our visiting staff in medicine. The time allowed in the curriculum is two periods of two hours each per week, a total of 84 hours. The general plan of the course is that we use the first half hour of each two hour session for classroom work with the whole class, and the remaining hour and a half for practical work at the bedside. In this practical work, the class is divided into two equal sections. One of these is further divided into groups of not more than six students, to whom are given demonstrations of physical signs and methods on selected patients. The other half of the class is assigned individually to single patients on whom they work alone and largely unsupervised. From session to session, the two halves of the class alternate between these two types of practical exercise throughout the course.

In the group work, we use the first four or five sessions for instruction in the normal in physical diagnosis. In this we do little more than instruct the student in the techniques of physical diagnosis and demonstrate the principal

*Read at the Forty-eighth Annual Meeting of the Association of American Medical Colleges, held in San Francisco, October 25-27, 1937.

normal findings and differences. From our experience of former years, we are convinced that a more elaborate and longer course on the normal is largely time wasted. When we have completed the work on the normal, the groups continue with demonstrations of physical signs and methods. There are five groups to be provided for at each session. Of these, two groups are shown whatever is of most value for demonstration in the wards, and a third group goes to the tuberculosis division, where every sort of chest abnormality is available. The remaining two groups are assigned special subjects such as blood pressure, neurological examination, physical examination of children, ophthalmoscopy, etc., and are shown the methods in use in these fields. The ten groups of the class rotate one after another through each of these special subjects. In general, the discussion in the groups is, at first, concerned only with physical findings. Later on, other aspects of the cases are included, and at the end of the course the group sessions differ little from the ward rounds of the third year.

We have been particularly interested in the other type of practical exercise: the independent work on individual patients. We begin this in the second week, and continue it throughout the course. It places a considerable share of the responsibility for his development squarely where it belongs—on the student himself, and he learns from it much more than physical diagnosis. He must begin, of course, with things that he can do. For the first few weeks, while he is receiving instruction in the methods of physical diagnosis, his work is confined to the examination of the head and neck, body surface and any other gross abnormalities he may find. This he can do, following the outline for physical examination, and as he acquires the techniques of percussion and auscultation, he can proceed to include the remainder of the physical examination.

Each student leaves with us each time a report of his findings on his patient. Before he returns to the ward, these are read and criticized both as to content and form, so that he may learn to write up a neat and complete report, such as will be required of him in his clinical clerkship. We ask him to spend the first few minutes with his patient in discussing the man's symptoms, and to begin his report with a brief statement of the major complaints. This is the only proper approach to the patient, and at the same time it gives the student a first hand introduction to the symptomatology of disease. He then proceeds to the examination of the patient, doing as much as he can. An instructor is available in the ward if he should need help; otherwise, he is unsupervised. When he has finished his report he may consult the hospital record for any information he wishes to have about his patient.

In the second quarter of the course, there is a small amount of instruction in history taking. On a certain day, instead of making a physical examination, he takes a history, following the outline. Unfortunately, he does not have time to complete his record by continuing with the physical examination of the same patient. His history is criticized with especial care, after which he takes a second history, and this is again red penciled in detail. This amount of history taking is inadequate preparation for his third year work, but it is all we have found time to do.

In the classroom exercise, which occupies the first half-hour of each two hour session, we use the first three or four periods in explaining the terms used in the outline which he is already making use of in the ward. By that time, the work in the normal groups has reached a point where a discussion of the fundamental pictures in physical diagnosis can be taken up: signs of consolidation, pleural fluid, pneumothorax, etc., and the rationale of the development of physical signs in the common heart lesions. This occupies another four or five sessions. During the remainder of the course, the subject is developed by means of the case system, using summaries of clinical data taken from our ward files. The student receives one of these at each session, and it is taken up at the next period. The discussion takes the form of a quiz or conversation, in which most of the class participates each time.

The use of the case system early in the teaching of physical diagnosis is doubtless open to criticism. When we give the student all the data on a case, we are presenting him with a problem for which he is not prepared. In his effort to make a diagnosis, he will slight the elements on which it is based. He will get clinical indigestion, so to speak, from which he may never recover. It is quite true that his main interest is apt to be in making the so-called correct diagnosis of the disease picture rather than in the study of physical signs and their significance. But, we believe that his eager interest in the whole disease picture at that stage of his development is a powerful pedagogic force; and on the principle that it is easier to learn two things than one, he should learn his physical diagnosis from case records better than from lectures and textbook reading. By a proper selection of cases and suitable guidance of the discussion in the classroom, the subject may be presented with whatever balance of emphasis we wish. Keeping the discussion rather strictly to physical diagnosis early in the course, we include more and more of the larger aspects of the cases as the year progresses.

There is, of course, nothing new or original in all this. It represents merely the particular juggling of the techniques of education we have used in attempting to prepare the student in a short time for his ward work of the third year. Dr. Reid, in his valuable little book on teaching methods in medicine, reminds us that most medical teachers are wholly untrained in pedagogy. The particular grouping of fundamental techniques which we make are at best amateur efforts. As laymen in pedagogy, it is probable that most of us will subscribe to the heretical doctrine that there is no magic in any method. Superior physicians have been produced by very many methods, and by no method at all. The greatest factor in successful teaching in the medical school is the work of the committee on admissions who select our material. Furthermore, whenever we judge our methods by their apparent success, it is well to recall that there is no real measure of success. The superiority of one method over another would have to be demonstrated by producing better doctors from the same material. Such a proof is manifestly impossible.

Introductory Course in Surgery*

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At the end of the autumn quarter of the second year, Stanford University medical students transfer their residence from Palo Alto to San Francisco and, for the first time, become intimately associated with patients on completing their preclinical studies.

I shall relate the methods and means of instruction in surgery used during the other two quarters of the second year as arranged by Dr. Emile Holman, executive of the department.

A classroom introductory course in surgery is given twice weekly. Standard texts on surgery are recommended and the subjects to be discussed at each lecture are furnished at the beginning of the course. This enables the student to familiarize himself with the subject before the lecture and permits the instructor to devote the hour to emphasizing certain principles, to present recent ideas obtained from the literature and to augmenting the presentation with suitable patients or lantern slides. Moreover, this method acquaints the student, for the first time, with a surgical vocabulary.

We have felt that this introduction to surgery should be made by an intimate contact with the older teachers and, accordingly, the lectures have been arranged so that the chiefs of the various divisions in surgery present and discuss the subjects in their respective fields.

Included in this course are three lectures and demonstrations by the chief of the division of anesthesia supplemented later, either in the summer or during the third year, by the administration by the student of ten general anesthesias under supervision.

Obstetrics, gynecology, orthopedics, fractures and dislocations are not included in this introductory course, but are presented at other hours during the second year.

Fractures and dislocations are discussed in a satisfactory manner by holding instruction in the Outpatient Fracture Clinic. The subject is covered weekly by half hour talks to the whole class, supplemented by demonstrations of current fractures in clinic patients to one-half the class for a subsequent two to three hours. Each student will have at least 32 hours in which to become familiar with fractures and dislocations, ten hours of lectures and demonstrations in orthopedics, in addition to about forty hours of lectures and demonstrations in surgery.

*Read at the Forty-eighth Annual Meeting of the Association of American Medical Colleges, held in San Francisco, October 25-27, 1937.

To prepare the students further for their clinical clerkship on the surgical wards in their third year, when they assist at operations on their patients and follow closely the pre- and postoperative care, two afternoon courses are required in the second year. One is to acquaint them with bandaging, splinting, dressing of wounds and other bedside treatment. The other course trains them in surgical technic and surgical procedures. This exercise is performed in the laboratory under conditions identical to those existing in the modern operating room.

Once a week, following the half hour lecture on fractures and dislocations to the entire class, half of the members leave and attend the two practice courses, mentioned above, that occupy the rest of the afternoon.

In the so-called bandage course the students learn to apply bandages and dressings, to prepare material for sterilization and acquaint themselves with the names and uses of various instruments, ligatures, drainage and dressing materials. They witness demonstrations of transfusion, intravenous medication, thoracentesis, paracentesis, lumbar puncture, hypodermoclysis, enemata, tracheotomy set and the Drinker respirator. They prepare various stupes, poultices and plasters. They are also shown methods in the postoperative care of patients, such as the position and exercises in bed, the employment of the catheter, stomach tube, rectal tube, the Murphy drip, and various suction apparatuses. They are taught the use of the dressing carriage and the technic of dressing wounds on the ward.

The purpose of the other practical afternoon course is to instill thoroughly into every student the principles of surgical technic and to develop in each a surgical conscience so that when he becomes a member of the surgical team, in his third year, he will not be a hazard to his patient, and will not jeopardize the successful outcome of the operation. This, of course, is not an attempt to make surgeons of the students or to determine whether they are interested in surgery. Nor is it a course to teach the operations in surgery, although in training the students in operating room technic each one takes his turn at being anesthetist, instrument man, first assistant and surgeon. Dogs under full ether anesthesia are the patients, and procedures such as laparotomy, thyroidectomy, nerve suture, splenectomy and nephrectomy are done.

It is a course to teach every student how to act properly in an operating room so that he will never harm a patient. Some students may become pediatricians, internists or neurologists, but sometime, somewhere in later life, they will be in an operating room and the principles and details of operating room technic, obtained in this course and reemphasized in their third year in the operating room, will become so fixed in their mind that they will not make the breaks in technic that the older, untrained doctor does unknowingly.

In the five afternoons of this course, instruction is directed toward developing the students' powers of observation and toward emphasizing meticulous care and accuracy. They learn the correct method of preparing and sterilizing supplies, instruments, gloves and the operative field; of cleansing and sterilizing their hands, nails and forearms; of applying gowns, gloves and drapes; of using in-

struments and handling tissues; and of suturing tissues and wounds. Throughout the entire time, they are watched and guided. Mistakes are pointed out in such a manner that they will not occur again.

When acting as surgeon the student and his assistants must know about the condition for which the operation is performed and the complications that might develop during the operation. After operation he makes daily visits to his patient, noting the condition of the animal and the wounds, and recording the pulse, respiration and temperature. At the end of two weeks, he presents his operative and postoperative reports, along with the anesthetist's operative record.

Thus, in the last two thirds of his second year, an attempt is made to prepare the student in the principles and practice of surgery by lectures and demonstrations in surgery and its specialties, by practical courses in fractures and dislocations, bandaging and the procedures used on the ward and in the home, and by exercises that instill the principles and the details of asepsis and operating room technic so that when he enters the wards in his third year he should be capable of making a complete physical examination, of observing the signs and symptoms of the surgical condition, of becoming acquainted with the procedures used in the preoperative diagnosis and treatment, of being on the operating room team without hazard, and of being trained to recognize and to correct the postoperative complications.

The Teaching of Pathology*

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The methods used and the features stressed in teaching pathology are extremely varied, a healthy situation which is due, in part, to the fact that pathologists have duties aside from teaching. Some have almost no routine work, others make many autopsies, work in surgical or clinical pathology, or bacteriology, or continue programs of research which become routine functions. As a result, the clinical, the experimental, the gross or the histological features of disease receive very different emphasis and there is a stimulating lack of uniformity in teaching. Gross pathology, because of the example of Germany, where this subject almost takes care of itself, was formerly not much stressed, and students sometimes were forced to study the cutting and staining of tissues. Now the latter practice is largely abolished, and the gross appearance of lesions generally is given adequate presentation.

In the year just passed, several pathologists have made the suggestion that microscopic study be reduced greatly, and the gross lesions and clinical features of disease stressed even more heavily. This was accompanied by reminders that the student is to be a practitioner, not a pathologist, and, therefore, needs very little histological experience. The latter remark is based on a misconception, since the time and for the most part the emphasis given pathology is not intended to do more than prepare men to understand medical practice, and nowhere do pathologists attempt to train undergraduates as specialists in this field.

The histological features of pathological anatomy are important not only because they are so much used in diagnosis, and because of their historical importance, but because they illustrate and clarify many points in gross morbid anatomy and in the general study of disease. For just as one needs to visualize morbid anatomy in studying sick people, so in studying tissues exposed at operation or autopsy, the underlying cellular changes, as revealed by the microscope, must constantly be in our mind's eye. Many internists have spent hundreds of hours in pathology in addition to curricular requirements and in looking back, considered the time usefully spent. Valuable as additional work in pathology is to the internist, it is much more constantly and immediately important to the surgeon and the radiologist, for modern therapy is very often guided by the histological diagnosis. In our department this year we have four men who have dropped out after a year or two of surgical internship to spend a year in pathology, and several more who applied had to be refused admission. There were nearly fifty applicants, only twelve of whom could be accommodated, for the elective all-day one-month course in autopsy and surgical pathology given for

*Read at the Forty-eighth Annual Meeting of the Association of American Medical Colleges, held in San Francisco, October 25-27, 1937.

our students during three summer months. These men had completed the required courses in pathology, and none intended to specialize in this field. All these facts seem to destroy the casual assumption that too much time is now devoted to undergraduate instruction in the histology of diseased tissues.

Before urging the pathologist to deal more exhaustively with the clinical features of disease, it should be remembered that the task of integrating fundamental and clinical subjects need not automatically be shouldered by the preclinical group. This is only necessary where the clinical staff is wholly uninterested in the relation of science and medicine. Where the clinicians are alert, all such correlations are best made in studying patients, and, in pathology, by studying surgical specimens or autopsy material from the patients whom students have actually observed. A museum, such as Dr. Boyd organized at Winnipeg, and even fresh or preserved gross specimens can advantageously be used in connection with teaching medicine or surgery, but the men on the wards, rather than the pathologist, should select the clinical material useful for these museums.

It seems to me quite obvious that the clinical wild oats which biochemists, anatomists, bacteriologists, physiologists, pharmacologists and pathologists are tempted to sow in their fundamental alfalfa indicate unwise mental husbandry, especially when intended to make the course more "interesting." After the physiologist or pathologist has flashed the photograph of the popeyed woman before the class, it takes about a year for the clinician to convince students that exophthalmos is not regularly seen in hyperthyroidism. One can truly correlate clinical and preclinical teaching when there is a physiologist, anatomist, bacteriologist, pharmacologist, or pathologist whose clinical colleagues enjoy discussing with him problems raised by selected cases. This can be done in two or four hours each month before a class, in some fields for the freshman, for others in the other years, or it may be concentrated as described by Professor Eadie in your Journal. No real integration results from clinical forays by men who have no close and continuing contact with patients and who are not engaged in active clinical investigation.

The technical methods and training of the pathologists make it possible for them to assist students to acquire a knowledge of histological pathology on which the student and practitioner can safely build an understanding of gross changes in tissues and their relation to disease. The attempt to learn morbid anatomy with only a second hand or superficial knowledge of cellular pathology is like building on foam. From the standpoint of the undergraduate, the pathology department exists largely to bridge the gap between normal histology and morbid anatomy, and if it does not devote most of its time and energy to this field it might as well be merged into clinical and other fundamental sciences. The opportunity to study gross material requires no special equipment and is open to students and to practitioners throughout life. The investigation of problems in pathogenesis which require no histological technic or experience can safely be left to the bacteriologists, physiologists and clinicians.

Having expressed these reactionary views, I will describe the courses in

pathology required of our students. All plans represent compromises between our desires and our physical or curricular handicaps. The department has four faculty and three resident members, and performs about 12 autopsies and 40 examinations of surgical specimens each week. Autopsies are done day or night in four institutions, each distant several miles from any of the others.

Our course begins simultaneously with the introductory courses in medicine and surgery. While this delivers us from the temptation to expand our references to the symptoms and signs associated with altered structure or function, it would be better to treat pathology as a fundamental subject part of which should precede the introductory clinical courses. The Stanford curriculum is unique, since it provides for anatomy, physiology and bacteriology a total of 1,250 hours, 200 more than is usual elsewhere. Therefore, neither pharmacology nor pathology is introduced before the work with patients begins.

In the sophomore course on general and special pathology there are about 60 hours for lecture and discussion, with an occasional five minute written quiz on a question which deals with reading previously assigned, or material already discussed. The epidiascope was formerly used much to project specimens but now, in this course, few gross specimens or slides are projected during lectures, which deal chiefly with pathological physiology. We feel that close contact with gross material is best for beginners, but that epidiascopic projection is useful in later years. One hundred and thirty hours are given to study of sections and incidental inspection of gross specimens, during which the students are assisted by one instructor for every fifteen students. Fewer lectures, smaller groups, and better association of the gross and histologic structure than we now have seem desirable. There is no display museum, but preserved tissue in rectangular jars and fresh tissue in trays is put out each day to illustrate the subjects dealt with by microprojection at the beginning of each laboratory period, or in the assigned slides. No drawings are required, as we prefer to have the students practice making vivid, somewhat quantitative descriptions of the changes in tissues. In addition, the students observe ten autopsies and write summaries of the gross and histological findings.

In the junior year, two hours each week are spent in analysis of cases which have been examined by the pathologists. Surgical material or autopsied cases are assigned to one or two students five days in advance of the class, presented by the students, and discussed by a group. The class is divided into three sections, and a member of the surgical staff participates in the discussion of surgical material. Clinical histories, gross and microscopic findings are thus summarized for students working on the wards from which the material is derived. Each student is only an auditor about one-half the time, and one-half the time he has studied and submitted a written report on some of the material.

The senior class attends a weekly conference at which the clinician discusses case histories, and the pathologist, with epidiascope and microprojector, demonstrates the morbid anatomy. We select cases chiefly to illustrate the evolution of disease, the value of biopsies, or the difficulties of exact pathologic diagnosis,

rather than to give the clinician a dramatic opportunity to display his acumen as a detective. The students also attend ten of the weekly conferences at which the radiologist, the surgeon and the pathologist demonstrate and discuss cases with tumor. I am not convinced that these senior exercises should not be listed in the clinical rather than the pathological curriculum. We would prefer having the students participate in carrying out the pathological studies on cases that they have followed to operation or a fatal outcome and then would need only one hour each week during the junior and senior year for conferences on the surgical and the autopsy material.

I have described a method for giving 280 required hours to a class of 60 students. It calls for 620 hours of our staff's time, not including that spent in assisting or preparing for conferences and classes. This is not much compared with the 6,000 or 8,000 hours which the clinical staff give for the student's 2,000 required hours, and the staff member who devotes the most time to teaching pathology spends only 210 hours a year as against the 330 hours given by the members of the department of medicine. Yet, contrasted with the group method described to you last year, which demanded of the staff only 240 hours for 240 hours required work for a class of 60, our method, and to an even greater extent that of some other universities, is very expensive. It may e bthat our method is also less effective than a lecture system, enlivened by the participation of 5 per cent of the class who have gone over the day's work very thoroughly, and illuminated with proper presentation of specimens, sections and photographs. We must be prepared to learn that it is better to have the class drink deep of a few springs, and have a brief but vivid glimpse of the whole field, than to spread their time evenly but inadequately on all subjects.

The implications to the medical administrator, if Dr. Boyd's rejection of the student laboratory is proved a wise step, are tremendous. A great reduction in staff and in space is possible, and the advantages to anatomy, biochemistry, physiology, bacteriology and, particularly, to the clinical courses, are far greater than to pathology. The full utilization of modern methods of reproducing sound, color and movement, the intensive study of a small part of the subject by small groups, the elimination of the routine procedures which as interns they will experience amply, all this may well lead to a flight from the cadaver, the bedside, and the student laboratory which will be far more rapid than the evacuation of the lecture halls between 1885 and 1925. We may come to look on student participation in ward rounds, anatomical dissections, and experiments as a step the wrong way, and I feel certain that a swing of the pendulum away from some of our present methods will be of benefit. Being from Missouri, I shall need some further evidence before radically altering our teaching method from that which I have described.

The historian of the decline of Rome needed to explain why many princes who had the best educational facilities turned out badly, and Gibbon's variations on the horse-and-water theme are both numerous and striking. Dr. Boyd quoted to you the one which states that the education a man owes to himself is vastly

more important than that which he receives from his teachers. This remark probably applies more forcibly to princes or gifted students of the humanities than to men in professional schools, but it does make us reluctant to substitute lecture methods for those which give opportunity for individual study. My own favorite, among the Gibbon variations on a theme, is that which reads: "the power of instruction is seldom of much efficacy, except in those happy dispositions where it is almost superfluous." One corollary of this is that great caution must be exercised in evaluating methods of teaching, for the results ascribed to a method may be due to "happy dispositions" effected by other factors. It is, therefore, with some hesitation that I express the belief that personal contact between student and instructor and the opportunity for individual study of tissues or of cases do much to create a disposition to seek and retain knowledge.

Signs of Spring

The sun creeps slowly from the south,
The sky is a kindly blue,
And lulling winds blow soft and low
Across the lingering snow.

Each morn the light comes earlier,
Chasing winter's gray despair
From a moody world that's fairer
When the spring is in the air.

Quite soon we'll hear the song of the birds
In their morning serenade,
That's something more than melody
By the great musicians played.

The showers that bring the early flowers
We shall welcome with a will,
Though Spring is never here until
We can see the daffodil.

The crocus, scilla, snowdrop may
Have to sleep in sleet and snow
But when we see the daffodil
We know soon the rose will blow.

—H. A.

The Organization of the Senior Curriculum at the University of California Medical School*

S. P. Lucia

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The present organization of the senior curriculum at the University of California Medical School was evolved from an experiment begun in 1923. At that time, the final semester of the senior year was devoted entirely to elective subjects. Selected students were apprenticed to practicing physicians for one month. The purpose was to acquaint the student with the problems of the practitioner and to give him experience in handling patients.

The objectives of the plan were: first, to familiarize students, who had been taught the science of medicine with the art of the practice of medicine; second, to provide drill in fundamental routine procedures; third, to graduate young physicians capable of assuming complete responsibility for the care of persons who are ill or incapacitated. The sick wish to entrust competent physicians with this responsibility, and it should be the fundamental aim of a sound curriculum to train men capable of assuming this responsibility.

Since 1933, when the facilities of the new building which houses the Outpatient Clinic first became available, the teaching of fourth year students has been carried on largely in this department, where approximately 22,000 patients, representing a total of 180,000 patient visits, are seen annually. The supervision of students is assumed by members of the faculty of the medical school. Of the total of 79 full time and 303 part time clinical teachers, a large proportion contribute to the teaching of the senior students.

Because the aim of the medical course is to offer to qualified students an opportunity to acquire fundamental knowledge of the practice of medicine, the student should have ample opportunity to study the emotions of patients, and thereby learn how psychologic dysfunctions (induced by social and economic situations) alter disease. Successful clinical teaching must be practical. Opportunity should be provided for the study of an abundance of clinical cases and a large variety of the usual disease conditions which are encountered in the ordinary practice of medicine. Thus, adequate drill in routine methods may be made available.

A curriculum in which much time is given and stress is placed on routine methods provides certain practical advantages in training the young physician. A disadvantage lies in the fact that there is less time for continued study of the preclinical sciences on which the development of the medicine of the future depends. The philosophy of teaching at the University of California Medical

*Read at the Forty-eighth Annual Meeting of the Association of American Medical Colleges, held in San Francisco, October 25-27, 1937.

School is to train clinicians capable of entering the active practice of medicine after the completion of a year of internship. This is at variance with the philosophy of teaching employed in those medical schools in which emphasis is placed on the science of medicine and where students receive the degree of Doctor of Medicine without the requirement of a year of internship.

At present, at the University of California, students have their first contact with patients during the second semester of the sophomore year. With the exception of the course in clinical laboratory methods, the clinical teaching is

SENIOR CURRICULUM

I.

Lectures and demonstrations attended by the entire class.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8-9	Applied Anatomy (V)	Amphitheater Clinic—Surgery	Dermatology (V)	(1) Orthopedic Surgery (2) Ophthalmology; Otorhinolaryngology	Surgical Pathology	(1) Seminar: Nutrition—Diet in Disease (2) Homeopathy (V)
9-10						(1) Gynecology (2) Legal Medicine
10-11						Amphitheater Clinic—Medicine
11-12			Clinico-pathological Conference			(1) Amphitheater Clinic—Pediatrics (2) Psychiatry
12-1			(1) Preventive Medicine (2) Art, Ethics and Business of Medicine			
2-3			Applied Anatomy (V)			
3-4			(1) Gynecologic Pathology (3-5) (2) Prescription Writing (V) (3-4)			
4-5				(1) Homeopathy (V)		

(V)—Voluntary course. (1)—First semester. (2)—Second semester.

entirely by precept, under the guidance of tutors. During the junior year, the students are assigned to hospital duty, the number of lectures is reduced to a minimum, and assignments consist of drill and projects requiring the use of selected clinical material. In the senior year, the work of the students is conducted primarily in the Outpatient Department where, under the guidance of a consulting staff, they assume the full duties of practicing physicians. They attend and study selected patients in the hospital. Lectures are almost entirely replaced by clinical demonstrations.

The senior course extends over two semesters, a total of 32 weeks, and is divided into six equal periods of five and one-third weeks each. The class is grouped into sections which, in rotation, are assigned to the major clinical divisions of the medical school. The division of obstetrics and gynecology undertakes the teaching of one-sixth of the class at a time for a period of five and one-third weeks; the division of pediatrics does likewise. Of the remaining two-thirds of the class, one-third is assigned to the division of surgery and one-third to the division of medicine, for periods of ten and two-thirds weeks each.

Schedule I gives the program of the lectures and clinical demonstrations attended throughout the year by the entire class.

OBSTETRICS AND GYNECOLOGY: The students assigned to the division of obstetrics and gynecology spend their time as follows:

SENIOR CURRICULUM
II.
Schedule for Division of Obstetrics and Gynecology (5 1/3 weeks)

<table>
<tr><th></th><th>MONDAY</th><th>TUESDAY</th><th>WEDNESDAY</th><th>THURSDAY</th><th>FRIDAY</th></tr>
<tr><td>9-10</td><td rowspan="3" colspan="2"></td><td rowspan="2">Grand Rounds</td><td rowspan="3" colspan="2">Out-Patient Clinic; Wards; Operating Room</td></tr>
<tr><td>10-11</td></tr>
<tr><td>11-12</td><td rowspan="2" colspan="2">Out-Patient Clinic; Wards; Operating Room</td><td rowspan="2"></td></tr>
<tr><td>12-1</td></tr>
<tr><td>2-3</td><td rowspan="2">Seminar and Work on the Manikin</td><td>Ward Rounds</td><td rowspan="3"></td><td rowspan="2">Obstetrics Seminar</td><td rowspan="2">Rounds in Gynecologic Museum; Delivery Room; Wards</td></tr>
<tr><td>3-4</td><td></td></tr>
<tr><td>4-5</td><td colspan="2">Ward Work</td><td colspan="2">Ward Work</td></tr>
</table>

While in this division, the students attend patients in the clinic and assist in their treatment. The work is carried on under the supervision of the resident and attending staff. In addition, each student is assigned to selected cases in the wards. He takes the history, performs routine laboratory procedures, follows his patients through surgery, and assists in their postoperative care. Each student is required to observe fifteen deliveries in the hospital and to assist in at least one delivery in a home. Written reports must be submitted of all cases seen and attended.

PEDIATRICS: The section assigned to the division of pediatrics is divided into three subsections, rotating as shown in schedules III, IV and V.

In the Well Baby Clinic and special clinics, students are taught the practical aspects of preventive medicine including immunization. Further opportunity for study of communicable diseases is provided by the periods spent at the Children's Hospital. At seminars and staff rounds, recent literature is reviewed and various clinical problems are discussed with the students.

SURGERY: The students assigned to the division of surgery are grouped into three subsections, which rotate as shown in schedules VI, VII and VIII.

SENIOR CURRICULUM
III.
Schedule A for Division of Pediatrics (2 2/3 weeks) (5 or 6 students)

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9-10	Ward Rounds	Children's Hospital		Staff Rounds	Ward Rounds
10-11	Out-patient Clinic			Out-patient Clinic	
11-12					
2-3	Well Baby Clinic	Seminar		Well Baby Clinic	Library
3-4					

SENIOR CURRICULUM
IV.
Schedule B for Division of Pediatrics (1 1/3 weeks) (2 or 3 students)

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9-10	Ward Rounds	Children's Hospital	General Clinic	Staff Rounds	Ward Rounds
10-11	Endocrine Clinic			Allergy Clinic	Chest Clinic
11-12					
2-3	Ward Work	Seminar		Ward Work	Heart Clinic; Ward Rounds
3-4					

SENIOR CURRICULUM
V.
Schedule C for Division of Pediatrics (1 1/3 weeks) (2 or 3 students)

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9-10	Ward Rounds	Children's Hospital	Ward Work	Staff Rounds	Ward Rounds
10-11	Ward Work			Ward Work	
11-12					
2-3	Ward Work	Seminar		Ward Work	
3-4					

In the undergraduate curriculum in surgery, emphasis is placed on the theory of major surgery with observation of technique, surgical diagnosis, and the practice of minor surgery. Occasionally, students are permitted to assist in major

operations. The technique of surgery, aside from that obtained in the course in dog surgery, is taught in the intern and postgraduate years.

During the time spent in this division, opportunity is offered to the student to observe and to assist in the work of the specialty clinics: eye, ear, nose and throat, urology and orthopedic surgery. The students also attend two sessions

SENIOR CURRICULUM
VI.
Schedule A for Division of Surgery (5 1/3 weeks) (10 or 11 students)

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9-10	Surgical Clinic				Grand Rounds
10-11					
11-12					
12-1	Ward Rounds			Ward Rounds	
2-3	Ward Work	Dog Surgery			Ward Work
3-4				Urology Seminar	
4-5	X-ray Conference	Ward Work			X-ray Conference

SENIOR CURRICULUM
VII.
Schedule B for Division of Surgery (2 2/3 weeks) (5 or 6 students)

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9-10	Surgical Clinic				Grand Rounds
10-11	Orthopedic Clinic	Shriner's Hospital	Orthopedic Clinic	Orthopedic Clinic	
11-12					
12-1	Ward Rounds			Ward Rounds	
2-3	Ward Work	Dog Surgery			Ward Work
3-4				Urology Seminar	
4-5	X-ray Conference	Ward Work			X-ray Conference

each week in which they receive instruction in the methods of roentgenologic diagnosis.

MEDICINE: The students assigned to the division of medicine, which includes the departments of dermatology, syphilology, neurology and psychiatry, spend their time as shown in schedule IX.

For its clinical work in the Outpatient Department the division of medicine has six sections of "units"—A, B, C, D, E and F. Each of these deals with a special branch of internal medicine, i.e., gastroenterology, hematology, cardiology, endocrinology, communicable diseases and dermatology, and neurology and psychiatry. As far as possible, a choice is given to the student of the unit in

SENIOR CURRICULUM
VIII.
Schedule C for Division of Surgery (2 2/3 weeks) (5 or 6 students)

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9-10	Eye Clinic	Surgical Clinic	Throat Clinic	Surgical Clinic	Eye Clinic
10-11		Urological Clinic		Urological Clinic	
11-12					
12-1	Ward Rounds			Ward Rounds	
2-3	Ward Work	Dog Surgery			Ward Work
3-4				Urology Seminar	
4-5	X-ray Conference	Ward Work			X-ray Conference

SENIOR CURRICULUM
IX.
Schedule for Division of Medicine (10 2/3 weeks)

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9-10	Ward Rounds		Staff Conference	Ward Rounds	
10-11	Medical Clinic			Medical Clinic	
11-12					
12-1	Psychiatric Clinic	Demonstration Clinic		Practical Therapeutics	Demonstration Clinic
2-3	Medical Clinic			Medical Clinic	
3-4					

which he desires to spend his time while in the division of medicine. In each of the special divisions, the student deals, primarily, with general medical cases. In addition, students are assigned for short periods of time to the clinics of dermatology, syphilology, and neurology.

In order to impress on the student that, as a physician, he is responsible for his patient, he not only takes care of the patient assigned to him in the clinic, and accompanies the patient to special clinics for consultation, but also assumes direct charge of the patient should he be transferred to the hospital.

By means of ward rounds, clinical demonstrations, general staff rounds, and a course in general therapeutics, the experience of the student is extended beyond the clinic.

Emphasis is placed at all times on the practical side of the problems of medical care. The students are required to do all of the routine laboratory work and thereby they acquire competence in the recognition of the limitations of laboratory procedures. Special laboratory tests are recommended only after exhaustive study has shown them to be necessary. Diagnosis solely by means of laboratory studies is discouraged.

The curriculum is developed in such a manner as to preserve the patient-physician relationship and to offer the student an opportunity to choose consultants. The responsibility for learning is placed on the individual student. The teaching in clinical medicine is done largely by men who are active in the practice of medicine. In the clinic the student observes the usual types of case. In the hospital he studies the more complex cases, under the guidance of specialists.

The medical curriculum is based on the idea of a broad training in the fundamentals of medicine. The plan emphasizes basic education and leaves training in the specialties for postgraduate years. There is a conscious attempt to make the students less and less dependent on specialists. The specialties are regarded as ancillaries only. What the public needs is not the specialist, but a health coordinator, physician, psychiatrist and confessor all in one; in other words, a general practitioner.

The properly organized medical curriculum is dynamic, not static. Recently, there have been added to the curriculum seminars on nutrition and diet in disease; and informal addresses on the art, ethics and business of medicine. In the future, some provision will have to be made for instruction in the socio-economic aspects of medicine, including the problem of adequate medical care, and in the public health aspects of disease. The medical school of the future must provide also for adequate postgraduate instruction, so that the citizens of the state may secure the best possible medical care.

Correlation Between the Outpatient Clinic and the Senior Curriculum*

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An outline of the working plan of the medical outpatient clinic will be presented. The fourth year students, of whom each year there are about sixty, are divided into three sections. Each section is assigned to the department of medicine for approximately eleven consecutive weeks during the year. When the students enter the service of the medical department, they are allowed, in order of their previous scholastic standing, to choose the particular division, or "unit," of the department in which they wish to work—i.e., under which members of the staff they wish to perform their duties.

The six divisions, or units, of the medical clinic are as follows: Unit A is concerned with gastrointestinal diseases; Unit B, with blood dyscrasias, tumors and arthritis; Unit C, with cardiovascular and respiratory diseases; Unit D, with metabolic and endocrine disturbances; Unit E, with infectious diseases and syphilis; and Unit F, with nervous and mental disorders. Each unit is supervised by a full time teacher who is interested primarily in the type of problem encountered in his unit, and who is doing investigative work in that particular branch of medicine. In each unit there are also part time men who are participating in certain clinical investigations and who hold clinics at specified times. The assistant resident and intern who assist with the administrative and clinical work of each unit, remain with the unit for a period of three months.

Since the number of students in a unit is limited to four, and since the students are allowed to choose, as far as possible, the unit in which they desire to work, the quota for certain units quickly becomes filled. It is interesting to observe, from year to year, which units become and which remain the most popular with the students.

The choice of a particular unit does not mean that the student concentrates on only one type or group of diseases. He is given a wide range of conditions to study, although his choice of unit enables him to observe more instances of one group of diseases while making hospital rounds.

In the clinic, the student's time is scheduled as follows: On Wednesday, from 8 to 9 a. m., he attends a dermatologic demonstration clinic; from 9 to 10 a. m., ward rounds are conducted by the chief of the unit every day, except Wednesday and Saturday. From 10 to 12 a. m., except on these days, he is assigned to duty in his unit in the clinic; and likewise from 2 to 5 p. m., except on Wednesday.

When he begins his work in the unit, the student is instructed in the routine

*Read at the Forty-eighth Annual Meeting of the Association of American Medical Colleges, held in San Francisco, October 25-27, 1937.

of the clinic; and it is impressed upon him that he is to be considered a doctor rather than a pupil, that he is responsible for his patient, and that, during his eleven weeks in the clinic, all patients assigned to him are his patients.

Before any patient is seen in the medical clinic, the social service department has determined his rating as "A" or "D." If an "A" rating is given, it means that the patient can afford to pay his registration fee of 35 cents, and for laboratory work at clinic rates. If his rating is "D," laboratory tests and medications prescribed must be paid for out of the teaching budget or by the agency in the city which has directed the patient to the clinic. The central medical office is a small unit to which the new patient first reports after leaving the social service department. Here, the doctor in charge interviews the patient and assigns him to one of the units. If the patient has been referred from out of town (as about one-third of the patients are), the letters of reference are read; and an attempt is made to assign the patient to the correct department, and to see that any special request made by the referring doctor for his patient is carried out. The patient is then weighed, a urine specimen is obtained, and he is conducted by a nurse to the unit assigned. If the patient is acutely ill, it is arranged that he be seen immediately.

In the central unit, a daily schedule is kept of the return appointments for each student, so that it is known how much work may be assigned to each student for the day. Records are kept also of all new patients and their assignments, so that it is assured that every appointment made for a patient is fulfilled.

When he sees a new patient, the student obtains a complete history and makes a thorough physical examination. After this is completed, the student must ask a consultant in the unit to go over the patient with him, and to give helpful criticism of the outline of treatment and the various procedures contemplated. The advice of the consultant and the outline of treatment are incorporated in the patient's record. If the condition of the patient calls for further examination in one of the special clinics, the student makes the appointment and conducts the patient for the consultation. After he has seen the patient for the first time, the student makes all necessary appointments. Should the patient require treatment in the hospital, the student arranges for admission. The patient enters on the same unit in the hospital, and continues to be under the care of the same student and staff.

Any diagnostic or therapeutic procedures requested by the student must be approved by the consultant of his unit. In this way, unnecessary expenditures are curtailed, and the student becomes acquainted with the patient's economic and social problems. During his period in the medical clinic, the student is assigned for a day or two to the department of social service. Here he can observe the workings of the various welfare agencies in the community, and learn about the agencies to which he can turn for help. For example, he learns what type of service the Visiting Nurses give, how to refer patients to the Travelers' Aid, and how to present his patient's problems and needs in order to obtain special relief. The student also spends several Wednesdays in the San Francisco Depart-

ment of Public Health, to learn the functions of its various agencies and his responsibilities toward this department.

At the beginning of his period in the medical service, the student is encouraged to make house calls on certain of his patients. This is voluntary, but he is asked to submit a report of his visits. Most of the students are very much interested in this phase of their work. The reports frequently show that they have observed the patient's home environment; have considered what influence it has exerted on the patient's physical condition; and have given thought to the patient's ability, in his environment, to carry out the procedures outlined by the doctor. During these visits, the student is not allowed to prescribe medication; but he often finds that he can do a great deal to help the patient, or, by reporting his findings, cause aid to be brought to the patient through the proper channels. In most instances the patient appreciates the visit greatly. Some patients, however, resent house calls for fear they are being investigated as to their eligibility for clinic care; yet this seldom occurs if the patient is prepared for the visit by a tactful approach on the part of the student.

The new patients assigned to a student average about eight a week. At the end of each week, the student turns in a list of his patients together with the tentative diagnoses. From this list the instructor allocating new patients is able to determine the conditions the student has observed; and he can then assign special cases so that by the end of the term in the medical clinic the student will have been in contact with a wide variety of medical problems.

Each week the student selects some case of particular interest to him, and of this he prepares a summary. At the end of the period in the department of medicine, these summaries are submitted to the staff of instruction. They show the follow-up work which has been done, and what articles or books the student has read on the problems presented.

On Wednesday morning the student attends the medical staff conference, where hospital patients with interesting conditions are presented and their diagnostic and therapeutic problems discussed by members of the staff. Every day, from 12:00 to 1:00 o'clock at noon, a special demonstration or lecture is held in the clinic for the students: on Monday, a psychiatric clinic; on Tuesday and Friday, special demonstrations by members of the staff; on Thursday a lecture on therapeutics. From 9 to 10 a. m. on Saturday during the first semester there is a dietary seminar; and from 10 to 11 a. m. an amphitheater clinic is conducted by Dr. Kerr.

We have attempted to offer the student every possible means to help the patient. Stress has been placed at all times on the fact that the interests of the patient come first; that the patient is giving the student the opportunity of rounding out his training; that, during previous years of study, the student has been taught to observe, and to use the various tools of his art; and that now he must correlate and organize for his use all the training of the past. The personal element, and the importance of the relation of the personality of the student to his patient, are emphasized. The student is told that he is now considered to be a physician and that he must take responsibilities as such.

The consultants are instructed to teach the student that every patient is of interest, and that the ambulatory patient is just as important as the patient presenting an acute, undiagnosed disease requiring hospital care. The consultants' enthusiasm must be evident to the student; and to keep this enthusiasm alive, consultants are changed from unit to unit every eleven weeks. The popularity of a unit reflects that of its consultants, and by this rotation each unit is kept interesting and active.

The central medical unit, by keeping close contact with patients, nurses and consultants, learns of the students' progress. It is soon known whether or not a student is working, whether he is utilizing his time efficiently and is planning his work so as to increase his ability and help his patients.

In each unit there is a laboratory where the student can carry out routine procedures. Also, in the medical outpatient department there are special clinics such as the diabetic clinic, the cardiac clinic, the dietetic department and others, to which the student can take his patient for consultation. For example, if a patient has tuberculosis, the student registers that patient immediately with the nurse of the Tuberculosis Association. The nurse then notifies the proper agency in the district or county to which the patient belongs; and if the patient needs care in a sanitarium, the necessary steps are taken and follow-up work by the Tuberculosis Association is under way immediately. Until such time as special institutional care is ordered, the student continues his work with the patient, makes sputum tests, studies x-ray reports and keeps in contact with the patient.

The outpatient clinic must function well if it is to be of value to the student as an educational influence. It must not savor of a dispensary. Therefore, complete records containing full outlines of treatment should be kept; and facilities for laboratory procedures and x-ray and electrocardiographic studies, and a dietary department, must be available. The clinic should be managed so that patients can be followed efficiently with minimum effort on their part. Hospitalization should be avoided if possible, or minimized, with the outpatient department continuing the treatment prescribed.

His experience in the outpatient department should prove to the student the value of the contact he makes with the patient. The student learns how much the patient depends on him; how he can guide the patient through a maze of specialties; what the economic aspects of medicine mean; the expense of procedures; which procedures are of benefit primarily to the patient and which primarily to the physician; and how the savings of a patient who has not adequately budgeted for sickness may disappear quickly so that he has to resort to charity for aid. We hope that, at the end of his stay in the medical clinic, the student appreciates the services that an outpatient clinic gives to patients and the opportunities it gives to physicians. That this aim is realized, is shown by the fact that in latter years many graduates have returned to spend time in the clinic, and many others who practice in nearby vicinities have sent patients to the clinic, carefully studied but requiring some help which cannot be obtained in their community.

The Banishment of Minor Surgery

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Reprints of my editorial, "What Is Minor Surgery?," which appeared in the February, 1937 number of *Surgery,* were sent to 300 surgical teachers of all ranks in the United States. Accompanying each reprint was a letter expressed in the following terms: "It seems to me that we who teach surgery to medical students should unite in an effort to eliminate the term 'minor surgery' from our nomenclature. It is a useless, dangerous term, liable at sometime in the intern's career, or even while he is engaged in private practice, to endanger the life of a patient by thinking that any condition requiring surgical treatment can be regarded as 'minor.' You know, and so do I, that such a designation is unsound. It belittles the art of surgery and gives the student an erroneous conception of its practice. We should not stand by and allow such terminology to be used in our writing and teaching. I should be glad to have your reaction to this proposal."

Altogether 104 replies have been received. In the present article, selected excerpts from these replies, including further correspondence, are published with the hope of clarifying the views presented and of arriving at some unanimity of thought on the question at issue.

There was only one dissenting opinion, that of a urologist, HERMAN L. KRETSCHMER, of Chicago, who writes:

"Unfortunately I cannot agree with you that the term 'Minor Surgery' should be eliminated from our nomenclature and that it is useless and dangerous. Nor do I believe it is unsound nor that it belittles the art of surgery. Nor do I believe that it gives the student an erroneous conception. If the student gets an erroneous conception he can only get it from those who teach, and it then becomes the fault of the teacher. It is evident, therefore, that I can see no objection to this differentiation, and certainly a differentiation between minor and major surgical procedure does exist. I believe this can best be illustrated by the following examples: I do not believe that anyone would care to call a circumcision a major operation and place this operation in the same surgical category with the operation for brain tumor. Nor do I believe that the operation for hydrocele or varicocele belong in the same category with the removal of an enormous malignant tumor of the kidney. Nor do I believe that the amputation of a toe or a finger belong in the same category with the removal of a spleen. Nor do I believe that the removal of an infected Bartholin's gland is in the same category with a resection of five feet of bowel in a woman of eighty who has a mesenteric thrombosis. It seems to me, if one continues this discussion to the various diagnostic procedures in use at the present time, that a similar classification can be made. There are some of these diagnostic procedures, I believe, that are minor as compared to others that are definitely major. For example, an examination of the anterior urethra with the urethroscope, in my opinion, is a minor procedure in comparison with an examination with the bronchoscope, and I believe an examination of the larynx with the laryngoscope certainly is not as serious a procedure as is making of an encephalogram. Perhaps my interpretation of your letter is incorrect and if it is, I should be very glad to hear from you again."

To this my reply was as follows: "Your position is sound as far as your conception of the matter goes, and I am not opposed to, or combating, your views in any way. My object in condemning the term 'minor surgery' is to call attention to the fact that we

cannot tell the beginners where major surgery begins. It appears to me that many operations have been placed in the category of minor surgery which require much more skill than some of those classed under major surgery. My contention is that we should call it all 'surgery.' It is simply a matter of terms, not of extent. I believe that the operations in plastic surgery, even those on the female perineum, require a greater degree of skill than the removal of an unruptured appendix, or of an uterine fibroid; yet the former are classed in all of our statistics as minor surgery. In your work I am sure that the man who succeeds best is the one who is a good surgeon to begin with, so that he may do the little things as well as the big things. There are some in your specialty who could not be classed as genito-urinary surgeons, who can do all of the diagnostic procedures, but who are not really surgeons. I have objected to the term 'minor surgery' on the ground that it produces an erroneous conception in the minds of students and practitioners who might think that a circumcision was a very easy affair, when we know that some men have had difficulty in doing this operation very well. I agree with you that many times it is the fault of the teacher and it is my purpose to call the attention of the surgical teachers in this country to the fact that students are beginning to believe that the so-called minor operations, which often become major, are to be done by those who are not sufficiently trained to handle the job when it has been bungled. As I said in my paper, if there is to be a major and minor surgery, there should perhaps be a supreme surgery—and who is going to do this? I think we are pretty close together in this discussion, except in the matter of terms. My feeling is that students should be taught the beginnings of surgery, principles underlying it, and that the real surgery which you are placing at the head of your list should be actually a postgraduate course. Very few students will be called upon later to remove a brain tumor, or do a nephrectomy, resect a bowel or remove a spleen. When these things are done in a clinic, they look very easy; but many of the students afterwards will be concerned with circumcision, operations for varicocele, amputations of toes and opening abscesses. The point then, it seems to me, is to impress the student with the idea that these latter conditions constitute surgery and require just as much skill and care as the former. There are many minor surgeons, but there should be no 'minor surgery.' I find that there is virtually unanimous agreement among our surgical teachers to do away with the term 'minor surgery,' and that no dividing line can be maintained, believing that it is all surgery in its broad aspect, and that the greater includes the lesser."

One surgeon, who may be put in the "doubting Thomas" class, is HARVEY B. STONE, of Baltimore. He says: "Certainly it would be impossible for me to define the difference between major and minor operations and, like you, it seems to me that every surgical operation has potentialities which make it anything but a minor affair. I am not so sure that it will be easy to eliminate entirely the use of the expression 'minor surgery,' as it has become deeply established by custom. Also, I think, it does have a *certain value*. Admitting that a sharp definition is impossible, in hospital adminstration the training of young surgeons and the estimation of the amount of work that a practicing surgeon is doing, there is some practical utility in knowing how much surgery of the more difficult type, as compared with the simpler procedures, is being done. So-called minor surgery is not a trivial affair but needs to be done with the same conscientiousness and care that the so-called major work deserves."

Another, CHARLES B. MORTON, University, Va., who seems to think the differentiation impossible, expresses himself thus: "I feel, as you do, that the term 'minor surgery' is in many ways an unfortunate one, and yet I hardly see how it is possible to avoid making some designation of the simpler surgical procedures that can be done without such an elaborate set-up as the so-called major surgical procedures necessitate. I feel entirely as you do that many minor surgical procedures may very likely become major, particularly in the hands of an inexperienced surgeon."

I took the liberty of making this answer: "Objecting strongly as I do to the term 'minor surgery' I have not yet evolved a proper term for this part of surgery. I am

hoping that among the many replies which I have received to my letter that some one will suggest a proper name. The Cleveland Medical Council is taking it into consideration and the Duke Endowment is trying to find a way out for their statistics. There are two terms which suggest themselves to me, namely: 'principles of surgery' for the last semester of the second year, or 'elementary surgery' for the third year students. In both of these there is assumed some instruction in surgical diagnosis and pathology along with practical bacteriology and the simpler forms of technique. As a matter of fact, I hardly believe we need any positive designation except that which applies to teaching beginners the elements of the science and art of surgery. This would correspond to instruction in physical diagnosis in the department of medicine."

The letter of CURTIS F. BURNAM, gynecologist, of Baltimore, deserves special consideration: "It is difficult, of course, to define exactly what 'minor surgery' is. I do feel, with you, that a thorough knowledge of asepsis and surgery is necessary in handling many of the so-called minor conditions. I don't mean by this, appendicitis, hernia, gall bladder, etc., but conditions that would come to the man in general practice. This, it seems to me, is particularly true when it comes to the removal of small lumps and growths. Naturally I have seen more of this kind of thing lead to grief in the above conditions than in others. I don't think you are a hundred per cent right in putting 'medical gynecology' along with minor surgery. To practice gynecology efficiently, a tremendous amount of medicine has to be known and, I am sorry to say, few of us gynecologists know it. I believe the term 'medical gynecology' came from a desire to particularly emphasize the methods of treatment, peculiarly non-surgical in character. Of course, the gynecologist must have a complete knowledge of both the medical side and surgical side of his specialty, and most of the existent textbooks and publications that are popular are termed 'Operative Gynecology.' The mere use of this term, it seems to me, indicates that there must be some other kind of gynecology. I think you are doing a fine thing in insisting that students in the medical schools and interns should realize that any kind of a surgical operation has potential gravity connected with it, and that it should not be done unless whatever it may entail can also be taken care of."

My reply: "Your criticism of my use of the term 'medical gynecology' is natural and just. I agree at once that every specialist in this branch should have a complete knowledge of medicine as every other specialist ought. I can conceive of no gynecological practice, however, that is not concerned with some sort of surgical procedure. All surgery is not operative, but in this particular field the treatment is either topical, mechanical manipulative or operative—all of which is surgery. Nowadays medical gynecology also has to do largely with knowledge of the so-called ductless glands, a whole department of knowledge within itself. But the term used loosely leaves one to assume that no local measures are necessary. I do agree that many times it is the woman and not the womb that is out of fix. In that case medical measures alone are indicated. Your point is well taken and I admit that I was going somewhat out of my sphere when I lugged in a reference to medical gynecology. But I still believe that all local treatment in this branch is surgical in character."

Still another reply comes from an eminent author, who is entitled to the widest hearing, FREDERICK CHRISTOPHER, Chicago. He writes: "I appreciate very much your generous comments on my two books. I am not altogether sure that the solution of the problem lies in the elimination of the term 'minor surgery.' The surgical conditions included in my 'Minor Surgery' for the most part occur much more commonly than hyperthyroidism, acute cholecystitis, intestinal obstruction, et cetera. The men in small towns and in general practice cannot be prevented from taking care of these cases and in fact I doubt if the people could all be cared for if it were not for these men. It has been my purpose to teach these physicians to care for these ailments as well and efficiently as possible and to guide them away from the pitfalls of the more involved surgical work which they would not knowingly attempt. They must not incise a lymphangitis and they must incise a felon; they must differentiate a tendon sheath infection from a cellu-

litis of the finger; a metacarpal fracture should have a straight dorsal splint, not a curved volar one. These are common conditions and the rank and file will take care of them. And what is the alternative? That all surgical conditions must be cared for only by the experienced surgeon. From the practical standpoint this is impossible. It would mean that the army would have to be composed entirely of generals. The title 'minor surgery' might be criticized; I cannot think of a better one but will keep on trying."

Seven of the communications may be regarded as being noncommittal, in that the writers either gave no positive statement or were "on the fence." One of these said: "I did enjoy this effort of yours and believe it ought to do good. I shall be glad to hear from you what reaction you precipitate amongst surgeons and teachers of surgery throughout the country." The remaining replies, 89 in number, constituting the bulk of the letters received, will show, I think, the reaction "amongst surgeons and teachers of surgery throughout the country." They all express themselves in one way or another as being in favor of banishing the term "minor surgery" from our nomenclature. Brief extracts are here set forth. These teachers of surgery speak with authority gained from experience. We find that a few of them had already removed the title "minor surgery" from their curricula. Their names are arranged in alphabetical order.

IRVIN ABELL, Louisville: "I fully agree in your conclusion, and feel that the terms 'major' and 'minor,' as applicable to surgery, should be discarded."

CLAUDE S. BECK, Cleveland: "I am entirely in agreement with what you say about eliminating the old concept of 'minor surgery' . . . We will certainly try to give this matter our cooperation in Cleveland."

FENWICK BEEKMAN, New York: "My views are much the same as yours. In 1932 I published a small book entitled 'Office Surgery.' In the preface of that book I say in part: 'There have been various books published with the title 'Minor Surgery'. These works contained as a rule many surgical procedures that should only be carried out in a well equipped hospital. In the writer's opinion, there is no such thing as minor surgery; for, any surgical lesion, be it ever so insignificant, may be the first sign of a serious condition or may develop complications which will tax the ingenuity and judgment of the best of us. Consequently, there is no lesser surgery. All surgery is the same. There is no minor or major, as the simplest case at the onset may become the most complicated.' My feeling when I wrote this preface has remained unchanged. I am therefore glad to find that you have much the same idea. I agree with your views entirely."

E. J. BERKHEISER, Chicago: "I feel very much as you do, in that there should be no terms of minor or major surgery. Often times what appear to be minor procedures in surgery should have been considered major proceedings. Hence, let us just have surgery. So often the patients ask if it is to be a major surgical procedure or if it is a serious operation. I reply by telling them that every surgical procedure is serious and then explain to them if or not one anticipates any serious complications."

F. A. BESLEY, Waukegan, Ill.: "How right you are in your deductions and conclusions that there is no such thing as minor surgery! Many years ago M. L. Harris, Ed Halstead and myself tried to draw a line between major and minor surgery at the old Cook County Hospital. We worked for weeks and in the end concluded it could not be done. No such classification is possible."

LESLIE L. BIGELOW, Columbus, O.: "I agree thoroughly with your contention. It has seemed to me often that the management of a given case of paronychia demands more skill and judgment than an operation for the correction of a hernia, or the removal of an appendix. A tonsillectomy is a major operation, because the use of the knife may precipitate a hemorrhage which proves to be fatal. . . . There is no such thing as minor surgery. The term 'minor' has become fixed through long usage, and probably will not easily be given up, if for no other reason than that it serves in the making of a market for certain textbooks. Probably a lot of doctors will buy a 'Minor Surgery' with the

thought that it deals with subjects which they are competent to handle when they might not buy that same book if the word 'minor' were omitted. It is high time, however, that someone should have called attention to this absurd and untenable differentiation."

HORACE BINNEY, Boston: "I think your point is very well taken and it would be much better if another term could be found. Obviously the original meaning implied such surgery as could be done by a general practitioner, usually in the office, or surgery which should be applied to outpatients. Perhaps 'Office' or 'Dispensary' surgery would be equally good terms. I can say that there has been no distinction made in the teaching in the Tufts Medical School between major and minor surgery—nor do I think there should be. Since in an ordinary four year course the student cannot learn much more than the principles of general surgery, in which so-called minor and major surgery is equally important, there should be no distinction made, in my opinion."

CLARENCE E. BIRD, Louisville: "I wish to enlist myself in support of the opposition to the term 'minor surgery.' We use Dr. - - - 's text, but I wish it had another title, We call our second year courses Surgical Principles and Technique."

ALEXANDER W. BLAIN, Detroit: "For some years I taught 'minor surgery,' and the first lecture to the students was devoted to the explanation that there was no such type of surgery."

FRANK K. BOLAND, Atlanta: "I don't see any use today in having the term 'minor surgery.' I never use such an expression. . . . Surgery is surgery to me. I saw a man almost lose his life following the removal of a small sebaceous cyst, the wound from which became infected. . . . Let's forget the term 'minor surgery.' There ain't no such animal." (The latter expression is used also by Dr. James M. Mason, Birmingham, who refers me to the catalogue of the Johns Hopkins Medical School, where will be found listed a course in Minor Medicine. The exception proves the rule.)

BARNEY BROOKS, Nashville: "As long as I have been teaching I have made a serious attempt to avoid ever using the term 'minor surgery.' The treatment of a small wound in an accident department, a furuncle on the face, or an infected finger certainly require more knowledge, experience and skill than the routine average so-called 'major' surgical condition."

HAROLD BRUNN, San Francisco: "I agree with you that it is very difficult to define what is minor surgery. Recently there appeared at our Thoracic Clinic a child with a drainage tube in the pericardium which had been put in to drain an empyema by the closed method. We have in fact a 'chamber of horrors' which includes so-called simple procedures."

JOHN J. BUCHANAN, Pittsburgh: "I thoroughly agree that almost any case considered minor may by improper treatment become a major case, and that no line can be drawn between minor surgery and major surgery. I would, therefore, heartily endorse your effort to eliminate the term 'minor surgery' from the vocabulary of surgeons."

PHILIP A. CAULFIELD, Washington, D. C.: "I agree with all your contentions. I am enclosing an article of mine (published in 1935) which contains the following conclusions: 'The short experience that I have had . . . has taught me that many minor surgical conditions become major surgical problems because of neglect or ignorance on the part of the physician who first treated the injury. The same care in diagnosis, handling of tissue and treatment should be exercised in these conditions as in major surgery. A good knowledge of what can happen to a life or a member of the body following a pin prick is essential in the education of all physicians'."

HOWARD M. CLUTE, Boston: "I certainly agree with you. I have often wondered if we don't call it 'minor surgery,' so that the young fellows can be kept at that for a while, and we can do the things that we like to do and not have them get mixed up in them too early."

ISIDORE COHN, New Orleans: "It has always been difficult for me to understand what 'minor surgery' is. The things which a major surgeon often delegates to his intern or assistant are usually considered as minor surgery. Such things as fractures and wounds of the hand are considered by many men of such minor importance that they need not bother with them until, as a result of the primary insufficient treatment, a poor end result calls for the greatest skill and judgment in the management of the deformity. I believe the fault lies largely with the fact that we are getting away from the teaching of fundamental principles and anatomic considerations. Anything which you can do towards outmoding the expression 'minor surgery' will certainly redound to the benefit of the public in general."

EDWARD D. CHURCHILL, Boston: "Your views are very sound. One of the most important phases of the subject that you hint at but do not develop very thoroughly has impressed itself on me. Several times I have seen a doctor go to a friend for what he considered a 'minor' infection. This progresses until it becomes 'major.' At that time he begins to realize that he is in the hands of the wrong man and, if he could have foreseen at the outset such a development, would have immediately consulted a more experienced surgeon in whom he would have had confidence when the lesion became critical. It is always a temptation both for the laity and the profession not to 'bother' the busy senior surgeon for a trivial lesion. I quite agree with you that this very ofen ends in disaster. I shall do what I can to stamp out the term 'minor surgery'."

CLAUDE C. COLEMAN, Richmond: "I think that there is a real need for some one to obliterate the term 'minor surgery.' I never could consider any surgical operation as minor in view of the potentialities which every operation has for danger."

FREDERICK A. COLLER, Ann Arbor: "We do not use the term (minor surgery) here, have no course in it and minor surgery as such does not appear in our curriculum. Our 'scutcheon is still unsullied."

ALEXANDER R. COLVIN, St. Paul: "I quite agree with all you say. Gussenbauer in Vienna said many years ago that there is no such thing as minor surgery. There would seem to be room for a term covering some lesser surgical procedures, with the understanding that they are not minor in the sense that they are any less important than the bigger things in surgery and sometimes just as dangerous and that they require experience and skill in dealing with them."

ELLIOTT C. CUTLER, Boston: "Of course, there is no such thing as minor surgery, and it is too bad some medical schools still use this term for the introductory course in surgery in which, as a rule, the matter of trauma and sepsis is included. I always tell patients and my staff that tonsillectomy is a dangerous procedure, and I never allow a patient to be encouraged by the thought that any surgical procedure is simple and entirely safe. That form of comparative selling of surgical procedure is unfortunately largely in the hands of the specialists who say their little procedures are not so dangerous as the ones performed by the general surgeon. Moreover, I try to practice this preaching and, for example, the surgery of a septic hand in this hospital is done by me, for I consider such surgery the most difficult in all the body. I would far rather turn down a bone flap for a brain tumor, even just as soon go in for my old procedure of mitral valvulotomy, as care for a septic right hand of a laborer. I know how much the presence of infection adds to the difficulties of surgery, and I always envisage with each septic finger the mutilated and crippled hand that may result and which may therefore throw another entire family upon charity or state support."

VERNON C. DAVID, Chicago: "I am quite in agreement with you that any surgery that needs to be done should be carried out as if it were major surgery. The only objection that I have to the term of minor surgery is that it is often done by inexperienced surgeons . . ."

VERNE A. DODD, Columbus, Ohio: "It seems this unfortunate term is simply a heritage from the dim and musty past and carried with it no sound principle or common sense.

As a result of the stimulus you have given me I have taken steps to strike from all college records any reference to minor surgery."

JOSEPH L. DONHAUSER, Albany: "I have for the past few years laid special emphasis upon our students not looking upon such a term as minor surgery. It has led to a good deal of confusion in the student's mind . . . We at the Albany Medical College will keep the term away from our students."

WILLIAM T. DORAN, New York: "I agree with you that the use of the term 'minor surgery' is misleading and dangerous . . . the place for the correction of the name should be in the universities by the teachers of surgery."

CHARLES W. FLYNN, Dallas: "I believe that the term should be discarded because such operations as hemorrhoidectomy, thoracotomy, etc. are called minor surgery; but in reality are major surgery. People do lose their lives as a result of such conditions and frequently because of such operations."

L. WALLACE FRANK, Louisville: "I agree with you that there is no such thing as minor surgery. I recall during my school days a course in so-called minor surgery in which we were taught bandaging. However, of the so-called minor operative procedures there are none without risk and some with danger to life and mutilation of the patient with subsequent disability. I have in mind at the present time operations for ingrown toe nails, circumcision, etc."

ALBERT H. FREIBERG, Cincinnati: "I am very sympathetic toward the position which you take in this matter of 'minor surgery.' However, I would have you go further. I find objection to the whole tendency to place things belonging to the educational scheme into major and minor rubrics."

WILLIS D. GATCH, Indianapolis: "I entirely agree with your attitude toward the term 'minor surgery' . . . My teachers always taught me that every operation is a major operation and that all surgery should be taken seriously."

SAMUEL C. HARVEY, New Haven: "I am glad to say that I am in entire accord with your remarks. As a matter of fact we have not had at Yale for many years any course so named or given as minor surgery. The outpatient work is handled by the same staff and from the same viewpoint as is the hospitalized patient and the student is not exposed to this false distinction. It is particularly important at the present moment that this division be not accepted for it will be only one of several different escapes from the effort at setting higher standards in surgery, all of which will involve the idea of requiring a lower standard of ability and performance for some particular type of surgery."

ARTHUR E. HERTZLER, Halstead, Kansas: "I agree with you fully that the term 'minor surgery' should be eliminated and the whole joined with the regular textbooks on surgery. My idea is that it is a mistake to try to teach undergraduates any major surgery at all. I would limit the teaching almost entirely to what is now called minor surgery, with some diagnosis of major lesions added to the general subject of diagnosis. Power be to your campaign; I have sinned but I shall sin no more!"

EMILE HOLMAN, San Francisco: "I thoroughly agree with your editorial. To include the operation for hernia in a 'minor surgery' is, of course, absolutely untenable and I have inveighed against this practice on many occasions. To me the operation for hernia is a very major procedure which requires exceedingly good judgment to determine what procedure is indicated in each case and real skill in performing it so that the hernia will not recur. Some cases are cured by very simple procedures but such a cure can never be considered 'minor surgery.' I heartily agree that 'minor surgery' should be deleted from our writing and teaching."

THOMAS M. JOYCE, Portland, Oregon: "At the University of Oregon Medical School we make no distinction between major and minor surgery. All cases are treated with

exactly the same amount of preparation, as I have often seen so-called 'minor' cases where I thought their difficulty came from lack of precaution in preparing for some surgical procedure."

Louis R. Kaufman, New York: "I am in full accord with everything you say in your article . . . In my own service I have repeatedly opposed the separation of any part of our surgical work into a distinct minor surgery group, so that my staff know that they must never use the term in booking an operation. Weight of accumulated precedent is, as you suggest, responsible for continuing the use of the term and I hope that you will find it possible to bring about a revision. It seems to me that presenting the matter to the Associaion of American Colleges and getting your article printed in that Journal would serve to bring it before the surgical teachers who after all are the ones vitally interested."

William E. Ladd, Boston: "I have considered minor surgery a silly and harmful term for the past twenty-five years, but I never had sense enough to say anything about it. . . . I am in entire accord with your point of view."

H. H. M. Lyle, New York: "I heartily endorse your stand on 'minor surgery.' The use of such a term is dangerous, and it should be banished for all time from the surgical textbook and the surgical course."

Frank S. Lynn, Baltimore: "It has been my privilege for a great many years to teach medical students and to train hospital interns . . . A studied effort has been made to avoid using the term 'minor surgery,' this term, as you point out in your article, being fraught with a great deal of misunderstanding."

Urban Maes, New Orleans: "Of course you are right in your contention that the nomenclature 'minor surgery,' is bad and ought to be eliminated. I am quite embarrassed to find our own introductory second year course so labeled. The name was in the catalogue when I took over the department, and somehow, even though the material has been revised, the name has stuck. I promise you that it will come out when next the catalogue is revised."

William B. Marbury, Washington, D. C.: "As I have taught 'minor surgery' for some years at George Washington University, and have always felt that it was a misnomer, I heartily endorse your recommendation to discard the usage of the term. I have to confess that I have often felt apologetic for any course called minor surgery, and during the last few years it has been dignified by the name 'Operative Technique.' I am glad that you have brought this matter to the attenion of the profession, and feel that it will have a very salutary effect, particularly in many hospitals where general practitioners are allowed to do 'minor surgery' along with medicine."

Stuart McGuire, Richmond: "I have read the article with a great deal of interest and pleasure and agree with you in all you say. The only difference I know between a major and a minor operation is the matter of the fee."

R. W. McNealy, Chicago: "I thoroughly concur in your plan to eliminate the term 'minor surgery' from our nomenclature. I thought that I was the only one who was irritated by such things, but I am glad that you, too, find it worthwhile to keep the younger men straight in their regard for our profession."

G. L. McWhorter, Chicago: "I heartily agree with you and I have criticized some of the authors of the newer and better books for using the title 'Minor Surgery' while including practically everything. The term should be entirely discarded."

Evan W. Meredith, Pittsburgh: "I am sure most surgeons have not thought much about it. They, however, have had experience in which a so-called minor operation turned out to be a major one, much to their discomfiture. I liked particularly your emphasis on the fact that surgery is all surgery and none of it is minor."

ROBERT T. MORRIS, Stamford, Conn.: "You cannot define a metaphysical abstraction. Your idea . . . is the right one. We can have minor surgeons but no minor surgery . . . that may run into a large field, as when a junior assistant, passing a sound ('minor surgery') pushes it out through the skin and gets past the stricture in that way."

JOHN J. MORTON, Rochester, N. Y.: "I thoroughly agree with your editorial. . . . There is no line and there cannot be one between major and minor surgery. In my experience a surgeon must be prepared to encounter major difficulties at any time. To qualify as a hernia and appendix surgeon and not be able to do any of the more serious things in the abdomen should not be tolerated. I hope that the rest of the country will react in a similar way."

GEORGE P. MILLER, Philadelphia: "I never use the term 'minor surgery' nor teach it as an entity. However, generally speaking, I do regard the operations performed on the ambulant patients in our outpatient service as of a minor nature. We have certain rules regarding this, in that suture of the tendons and nerves is never allowed, but otherwise, wounds and abrasions and foreign bodies and many other things are treated in the surgical outpatient clinic by the younger surgeons with satisfaction to ourselves and to the patients."

CHARLES F. NASSAU, Philadelphia: "I agree with you in every particular. There really is no such thing as 'minor surgery.' For instance, I am often shocked to hear hernia operations spoken of as intern's jobs. It is not surprising that, if this is the attitude of some surgeons, the results of operations for hernia are so poor."

THOMAS G. ORR, Kansas City: "Just a few days ago one of our staff asked me for a definition of minor surgery and I could not define it. It really is an unfortunate term and should be eliminated if possible."

ALTON OCHSNER, New Orleans: "I heartily agree with you in your editorial. As a matter of fact, at no time since I have headed my own department have we had any course which was considered minor surgery. We also have used none of the textbooks, which were supposed to be minor surgery. I believe if more people accepted your idea that there would be fewer minor surgeons, as you designate them, and better work would be done."

G. C. PENBERTHY, Detroit: "In discussing the surgical problems with students, we are inclined to classify different lesions and procedures. I agree with you in your ideas, and feel as you do that surgery is surgery whether it is classified as minor or major."

FRANK R. PETERSON, Iowa City: "I am glad to comment very favorably upon your attitude. As a matter of fact, we in our work here have for years attempted to eradicate the term 'minor surgery.' In many instances we have attempted to prove the unsoundness of such a term."

MONT R. REID, Cincinnati: "I agree with you one hundred per cent . . . The term 'minor surgery' does not appear anywhere in our catalogue. We use such terms as 'Dispensary or Out-Patient Instruction in Surgery,' 'Operative Surgery,' 'Ward Surgery,' and 'Correlation Courses in Surgery.' Each year a member of my department gives about six lectures and demonstrations to the first-year students during their course of anatomy. These, of course, are very elementary, but are given with the idea of letting the students get some insight into the practicability of their work. In the second year, Doctor Zinninger gives a course of elementary demonstrations and clinics, three quarters of an hour, just before the course in general pathology. This is done with the idea of letting the students see the conditions, in so far as possible, which they are going to study in the laboratory."

I. S. RAVDIN, Philadelphia: "I think it is going to be difficult to get rid of minor surgery unless some one has a more acceptable term. It would seem to me that a compromise might be made by the use of the term 'Ambulatory Surgery.' We make no attempt

here to give a course in minor surgery in the second or third year but start off with our courses on the principles of surgery."

GEORGE M. SABIN, Burlington, Vt.: "I think your proposal towards eliminating the term 'minor surgery' an excellent one and simply use the one word, surgery. However, to do this I believe will take time and effort directed to all those who feel impelled to write books for teaching and otherwise on the subject."

ERWIN R. SCHMIDT, Madison, Wis.: "I agree with you regarding minor surgery, and I have usually taken one period of the fourth year students' time to discuss exactly this very same thing and to point out that, as far as I know, there is no such thing as minor surgery. I believe that it is a dangerous designation and ought to be eliminated."

A. M. SHIPLEY, Baltimore: "I have not used the term 'minor surgery' in the Department of Surgery during all of the years that I have been head of the department. We give no course in so-called minor surgery . . . and do not use the term, because, as you say, there is no such thing . . . There are a number of textbooks on minor surgery, but we do not use any of them in the school. We do not even give the students any course in bandaging, etc., but I leave them to pick up all of these accessories to surgery in their routine dispensary and hospital work . . . There are two courses. One in Topographic and Surgical Anatomy taught on the cadaver and the division called Didactic Lectures is a conference course. You will notice how much importance I attach to the Principles of Surgery, because the course is given by one of the senior surgeons in the group and an excellent teacher."

HARLAN SHOEMAKER, Los Angeles: "Strange how we go on year after year accepting terms and phraseology which we are accustomed to hear without any consideration of their real significance . . . Your protest is well taken and I hope to see this misused term, 'minor surgery,' eradicated from our medical language."

CARROLL SMITH, St. Louis: "I heartily agree with you that the term 'minor surgery' should be eliminated. I believe that a small injury requires as much brains, intelligence and skill to treat as any other form of surgery. I have been in a position to see the terrible after-effects and results and functional losses in injuries because the so-called minor surgeon was considered competent to treat these conditions. Furthermore, as a teacher of medicine, I have always tried to impress upon my students that the treatment of small wounds (boils and other so-called minor surgery conditions) was one of the most difficult subjects to learn in the field of surgery, as there were no clinics in which a man could get any experience in the treatment of these types of conditions, although there are numerous opportunities for a man to get experience in so-called major surgery clinics."

KELLOGG SPEED, Chicago: "I agree with everything you said . . . although I have never voiced such an opinion in print. I thought it was senility on my part to feel that minor surgical things often lead to serious major importance. Many such have occurred in my career and I am even more careful of surgical procedure in handling minor things than in major."

R. GLENN SPURLING, Louisville: "I quite agree with all your arguments. My own opinion is that any operation done on yourself is a major operation. Therefore, I know of no operation which should be classed as minor."

WILLIAM A. STEEL, Philadelphia: "I was much pleased . . . that some one else had taken up the club to eliminate this misnomer of 'minor surgery.' Some five years ago . . . I suggested the following: 'Minor Surgery is a vague term. What is considered a minor surgical procedure by the trained operator may assume major surgical proportions in the eyes of his less skilled confrere."

IRVING J. WALKER, Boston: "Historically, I do not know just why the term 'minor surgery' ever was adopted. Possibly the term applied to those cases in which under ordinary care there was no mortality, such as opening a boil, setting a broken arm, etc.

However, it is quite true that mortality should not be the criterion in the alignment of cases now as 'major' or 'minor' surgery. Mortality is of course a factor, but complications and end results are equally important. Also, what may be minor surgery in all aspects to the finished surgeon can well be major surgery to the embryo. I am absolutely in accord with the idea that we should immediately drop the terms 'minor' and 'major' surgery in our teaching, and consider the appellation of 'surgery' in all cases to mean *distinctly surgery*, thereby implying that all surgery is major."

ALANSON WEEKS and G. D. DELPRAT, San Francisco: "We agree with you entirely that surgery should not be divided in any arbitrary manner. It may interest you to refer to an article that appeared in the September 1936 issue of the Canadian Hospital which states in part: 'one of those academic questions concerning which there can seldom be any exact agreement. The operation which may be performed in office, outpatient department or patient's home and leaves him ambulatory, may be considered minor. Principal considerations are: whether the patient remains ambulatory; whether a general anesthetic has been given, and the risk to the patient.' All the above classifications are from the standpoint of the patient. Would it not be better to base the classification on the skill of the surgeon, as what would be a minor operation at the hands of a skillful surgeon, may become a major in the hands of the unskilled surgeon."

ALLEN O. WHIPPLE, New York: "I agree with you entirely in regard to the false implication of the term 'minor surgery.' It is a term that constantly creeps into surgical literature and teaching. In recent years we have tried to correct the impression by eliminating many of the operations that used to be done in the clinic, such as surgery of the hand and the obtaining of biopsies of lymph glands, and instead insisting that these procedures should be done under careful supervision in the regular operating room of the hospital. We have used the term 'surgery' in the clinic rather than 'minor surgery' for the teaching of such procedures as medical students should be acquainted with, but are constantly emphasizing to our students that we do not intend to teach them the art of surgery, this being a subject to be learned in graduate study."

CHARLES S. WHITE, Washington, D. C.: "I concur thoroughly in what you have stated. There is no place for the term 'minor surgery' in the medical school. It is misleading from every standpoint and we have eliminated it completely in our teaching."

WALTER D. WISE, Baltimore: "I agree entirely with what you say. Before hospitals were so well standardized, and even within recent years, we had applications at a hospital, with which I was formerly connected, for privileges in minor surgery. As you say, there is no line of demarcation. I remember my former chief, Dr. Harrison, having to go out in the middle of the night to stop a hemorrhage after a circumcision by a novice and I have seen some bad results from ingrowing toe nail operations and on two occasions I have seen the results of pigmented moles being curretted! Both these latter patients were dead within three months after their minor surgery."

THEW WRIGHT, Buffalo: "I have long felt as you do and have so preached to my students and to anybody, both in the profession and out, who has asked me the difference between minor and major surgery."

FRED C. ZAPFFE, Chicago: "I feel that even major surgery should be eliminated from the curriculum and be wholly a subject for graduate study and that undergraduates should have good courses in bandaging and treatment of fractures. They should know how to incise a superficial abscess and be taught asepsis and antisepsis—although not necessarily in the department of surgery. Then the 'minor surgeon' will pass out of the picture and 'surgeons' will be surgeons. As to the name or term to be used: We say diathermy, hydrotherapy, massage, etc., each being descriptive of a method of treatment. It seems to me that the term 'surgery' is equally descriptive. As you have said, what is 'minor' and what is 'major' surgery? Too much depends on modifying factors to make possible use of the correct term in any case. To my mind fractures and

the proper application of splints and bandages, or even opening a superficial abscess, require knowledge and skill. So, why particularize? It is and always will remain 'surgery'."

The following surgeons expressed themselves emphatically in favor of eliminating the term "minor surgery" from the nomenclature, making no extended comment: J. F. Corbett, Minneapolis; G. M. Curtis, Columbus, Ohio; H. H. Davis, Omaha; H. F. Day, Boston; R. B. Dillehunt, Portland, Oregon; F. G. Dyas, La Grange, Illinois; C. E. Farr, New York; Leo Eloesser, San Francisco; R. H. Harris, Battle Creek; Walter Hume, Louisville; J. F. Langdon, Omaha; M. L. Mason, Chicago; W. R. Morrison, Boston; F. L. Reichert, San Francisco; F. B. St. John, New York; F. H. Straus, Chicago; A. G. Swift, Syracuse.

CONCLUSION

In conclusion it may be pertinent to quote the following paragraph from my original article: "It is by no means contended that the general practitioner should not do surgery; it is even urged that he do more and more, so that he may become proficient in that which falls to his lot, and not shirk his responsibilities. He should, however, understand deeply that the study of surgical principles is his duty, that surgery is the same wherever it is needed, that none of it is minor, and that all of it is surgery. Let him tune his judgment to his conscience, realize his limitations (as everyone must), and do surgery, not minor surgery." Our definition, then, may still remain: "Minor surgery is that part of surgical practice which is done by the minor surgeon."

From Medical Graduate to Physician*

GEORGE E. WAKERLIN
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In the transition from medical undergraduateship to practice, the internship plays an important rôle. In choosing an internship, the standing, character and location of the hospital, as well as the type of internship which it offers, should be considered. Hardly necessary to mention is the fact that the hospital should be approved for internship by the Conucil on Medical Education and Hospitals of the American Medical Association. The question of the public versus the private patient hospital is raised often. The statement is sometimes made that the bulk of the clinical material seen in the public hospital involves the late manifestations of disease when the diagnosis is relatively evident. Moreover, the suggestion has been offered that the intern is likely to develop habits in dealing with charity patients which may prove detrimental to him in private practice among economically more fortunate individuals.

The first criticism has some merit but is offset, to a considerable extent, by the fact that most public hospitals provide dispensary facilities where the intern deals with disease in its earlier forms. The second objection should carry no weight whatsoever inasmuch as the courtesy and consideration extended to patients should be the same whether they are on a public ward or in a private pavilion. Good professional habits may be formed about as readily in a public as in a private hospital and are of great importance in determining future success in practice. In a public hospital, the intern is usually invested with a larger share of responsibility for his patients. This constitutes a distinct advantage for the intern and is not detrimental to the best interests of the patient provided the intern recognizes his deficiencies and calls for aid from members of the resident and attending staffs at appropriate times. This habit, properly acquired, will teach him to ask for consultation in dealing with difficult cases later on in private practice.

In the private hospital, the work of the intern is more closely supervised but this can easily be turned into an advantage if the intern will make his diagnosis and outline treatment independently of the attending physician even though the therapeutic regimen of the latter is the one actually employed. Moreover, the intern will have the opportunity of comparing various regimens of treatment prescribed by different attending men for the same disease. He should observe the varied techniques of psychotherapy which the attending physicians knowingly or unknowingly apply to their patients. The importance of psychotherapy in medical practice is apparent from the fact that one half or more of the patients in the better types of private practice are suffering from neuroses or psychoneuroses and in many organic illnesses there is a psychic factor. Some

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private hospitals maintain one or more semiprivate or public wards and thus combine, to a certain extent, the advantages of both types of institutions from the standpoint of internship.

In choosing either a public or private hospital, the prospective intern should investigate the frequency and level of its staff meetings and the opportunities afforded for intern participation, as well as the character of the living and recreational facilities offered the intern staff. If the hospital is located in a city in which there is also a medical school, the possession of faculty appointments by some of the hospital attending staff speaks well for the internship possibilities of the institution. The reverse, however, is not necessarily true. Except under circumstances of absolute necessity, the question of financial remuneration should not play a rôle in the choice of internship. The prospective intern will do well to investigate the percentage of autopsies recorded for any hospital which he has under consideration. The Council on Medical Education and Hospitals requires a minimum of 15 per cent for internship approval, thus recognizing that there is a certain degree of proportionality between the autopsy percentage of a hospital and its desirability for internship.

The location of the hospital is also of some importance. There is a distinct advantage to spending one's last hospital year in the city or town in which one intends to practice. Certain of the contacts which the intern makes among members of the attending staff and among patients are likely to prove of material advantage to him in practice. The older attending men, who are favorably impressed by an intern's work may send patients to him when he enters practice, may offer him an associateship, or may assist him in securing a part time appointment to supplement his earnings in the early years of practice. He would be a poor intern, indeed, if he did not attract a few desirable patients from among the many whom he attended during his hospital training. The making of suitable hospital connections is also facilitated by interning in the city in which one intends to practice. The location of the hospital selected for internship is less important to the man who already has suitable connections in his city or town of future practice and to the man who plans to practice in a small town which does not possess a hospital approved for internship.

The type of internship, i.e., rotating, straight, or mixed, which a hospital offers should also be considered. A rotating internship includes services in medicine, surgery, pediatrics, obstetrics and in the clinical and x-ray laboratories. A straight internship is limited to one of these fields or even sometimes, as in the case of surgery, to one of its branches. A mixed internship comprises more than one service but does not include all of the six fields which constitute a rotating internship. For the man who intends to go into general practice, the rotating type of internship is best. The straight or mixed internship is satisfactory for the man who plans to enter a specialty but even he does well to serve a rotating internship first.

When entering on his internship, the medical graduate should realize that he is about to experience the happiest period of his career. The stress of college and medical school days with their examinations are behind him and he now

has the opportunity of putting to a practical test the theoretical knowledge gained during the previous four years. He is practicing medicine but the ultimate responsibility rests with his attending men and the institution. A certain degree of the prestige of his attending men and of the hospital is vested in him and as a consequence his patients and their relatives accept his decisions and advice more or less unreservedly. A contrast in this respect is likely to make itself apparent to him during his early years of private practice and to constitute an annoyance unless understood properly. Moreover, the intern has no worries concerning office rent, automobile upkeep and living expenses. His associations with fellow interns are more or less of the same amiable variety characteristic of undergraduate days and what competition he encounters is largely on a fair basis. Should he become the butt of friendly comments by his colleagues because of some personal quality, the intern does well to examine himself in as unbiased a manner as possible. Most likely he will agree with the judgment of his fellows and with the desirability of removing or minimizing his foible. The constancy and comparative intimacy of the associations of an intern group is not unlike that of a family in throwing into sharp relief both one's better and less desirable qualities. The internship offers the last opportunity for divesting oneself of his heels of Achilles without paying a significant price.

As the period of internship draws to a close, there is sometimes a desire to prolong this interval of security. Unless a man wishes to prepare for one of the specialties, however, two years of hospital life is ordinarily sufficient. A longer period is likely to produce a type of phobia for private medical practice which has been aptly designated by the term "hospitalitis."

Once the decision to terminate his hospital work is made, the fledgling physician should settle on the medical field which he wishes to enter. He should remember that there are avenues other than private practice open to him. The Army, the Navy and the United States Public Health Service offer opportunities which appeal to some. The incomes from these services are modest but certain and increases in rank are practically assured. Moreover, the provisions for retirement are adequate. Each affords the opportunity of medical practice beyond the immediate borders of the United States under circumstances which make possible the intimate study of other lands and peoples. Only the career of a medical missionary is similar or more fortunate in this respect. It should be remembered that medical officers of the Army, the Navy and the United States Public Health Service are responsible for the medical care of women and children as well as men, so that competency for private medical practice is retained. State and local public health work, with its regular hours and fixed income, attracts a certain number of medical men. If one aims to make this field his life's work, additional training in public health administration is desirable. There are increasing openings for young medical men in full time industrial work, the character of which varies from caring for accidents occurring during employment and conducting physical examinations of prospective employees to being given complete responsibility for the medical and surgical care of the employees and their families.

To some medical men a career of teaching and research in one of the preclinical or clinical branches will appeal. This field should attract only those who feel a strong urge toward research or possess a native teaching ability. Some medical men, as the result of myopic observation during their student days, are apt to regard the field of full time medical teaching and research as one suited for the weakling or sluggard. Quite to the contrary, the life of the successful medical teacher and investigator is fully as arduous as that of the outstanding physician in private practice.

Approximately 95 per cent of men finishing an internship ultimately elect private practice. Of these, approximately one fourth limit their interests to one of the medical specialties and the other three fourths engage in general practice. The proper avenues of approach to a specialty are twofold. The intern may spend an additional two or more years in an approved hospital leading to a residency in his chosen field or he may spend a period of years as the assistant or associate of a recognized medical specialist. Some men prefer to engage in general practice for several years and then acquire the necessary additional training already mentioned. There is much to be said for this last arrangement although it is less frequently followed now than formerly. The medical specialist who was once a general practitioner is less likely to view his patient in terms of one system or part of the body. The man who plans to train for a specialty should examine the requirements of the qualifying board for his specialty so that he may subsequently be certified. Though this is not at present a legal requirement, such certification will establish his competency, at least in the eyes of his colleagues and, no doubt, with further enlightenment of the laity, in the eyes of his patients. Moreover, certification may well become a legal preliminary to specialty practice in the not distant future. Certainly, something should be done to prevent physicians from setting themselves up as specialists when the inadequacy of their training in a restricted medical field is patent to all except themselves.

This brings us to the young physician who enters general practice. The general practitioner constitutes the nucleus about which the entire organization for the care of the sick is built. Indeed, his relation to medicine is in many respects analogous to that of the infantryman to an army. In general, the quality of medical practice in a community or a nation must be measured in terms of the general practitioner. His position is one of great responsibility. Not only is he called on to treat all manner of major and minor illnesses, but, not infrequently, his is the rôle of the family or individual counsellor. He should recognize his limitations, however, and refer to the proper medical or surgical specialist those patients who need the type of care which calls for more extensive knowledge and training in one particular branch of medicine than the general practitioner is expected to possess.

In selecting the community in which he intends to practice, the young physician should be certain that he feels fundamentally in accord with the people among whom he locates. People whom we like are almost certain to like us. The physician who will succeed in a university community, for example, may

fail in a steel mill district. No matter where he locates, the young medical man should present a "front" which is regarded favorably by the community. This applies to his person, his office, his automobile and his home, since the physician is judged partly by these externals, especially in the beginning. Unless he has ample means, the young doctor should secure a part time appointment, the income from which ought preferably to cover his basic office and living expenses. Otherwise, the early months of practice may take an inordinate toll in worry over the negative balance between receipts and expenditures. During this period, more trying for some than others, the young physician should remember that most successful medical men have weathered a like interval of discouragement and should be heartened by the fact that the likelihood of success in medicine is measurably greater than it is for entrepreneurs in business and most other professions.

The press of financial embarrassment is a powerful stimulant both for good and evil and the young physician must guard against the latter. He is likely to be approached for services of an extralegal type and may be tempted to accept because of the fee involved. No matter what his personal opinion of the particular statutes involved may be, he must realize that no matter how sincere the promises of secrecy, his acquiescence will soon be known to the community. The tendency of the average man to gossip too often overbalances his sense of honor.

The young physician should order his deportment in accordance with the principles of medical ethics of the American Medical Association. These are essentially specific elaborations for the medical profession of that most fundamental guide for human conduct, the golden rule. During his first months in practice, the young medical man should stabilize his reading habits. It need hardly be mentioned here that the frontiers of medical knowledge are ever advancing and broadening, and that the regular reading of medical literature, attendance at medical meetings, and an occasional visit to a medical center constitute the best means of keeping abreast. The sales talks of the detail men and the numerous advertising pamphlets and journals are poor substitutes. If he is located in a city which harbors a medical school, the more progressive medical man will seek a clinical appointment on its faculty and thereby add to his prestige.

When the practice of the young physician becomes significant, he is not unlikely to be annoyed by learning through one avenue or another of disparaging comments made concerning him by a few individuals, including possibly a medical colleague, of his community. The sooner success comes to him, the more likely this is to occur. Such an experience is best accepted as one of the unfortunate byproducts of attainment in any field. The armour of a clear conscience should protect amply against such darts of jealously. The road of success becomes increasingly difficult of ascent the farther it is traveled, and the higher the level of achievement the more precarious is the resulting position. When the physician or layman has learned to accept the buffets and rewards of fate with equal equanimity, he has acquired life's most valuable asset; viz., a philosophy of living.

Teaching Methods in Medicine, or How Effective Is Our Teaching?

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Having been identified with medical education in one capacity or another for more than a quarter of a century, during which time I had ample opportunity to observe our educational efforts as reflected in the work of our students, interns, house physicians, and, finally, as active practitioners of medicine, in the city as well as in rural communities, I gathered certain impressions on medical education, and as time went on they gradually crystallized into definite form.

In presenting my views on current medical educational problems, I fully realize the vastness of the subject involved, cognizant of the diversity of opinion of eminent medical educators both here and abroad. Above all, I am deeply conscious of my own shortcomings in this attempt.

And, perhaps, you may well ask, with the "cynic of old" what is my motive in all this? And, apologetically, I must answer that I do not possess "the philosopher's magic stone of wisdom." Nor do I wear the "mantle of a Master Critic." Medical education, more specifically here at Marquette, is my sole and only motive.

What can we do to make our teaching most effective? Do nonmedical teachers know anything about teaching that would be valuable to us in our work with medical students? The philosophy of education, as conducted in the public schools and colleges, has been revolutionized during recent years.

The teacher accepts the pupil not as a recipient, but as a reacting agent. The teacher accepts the pupil as the predominant partner in the work of education, and arrives at a result that shall contain a large contribution from the free activity of his mind. The teacher has now become a director of learning. He stimulates and guides the pupil, who learns largely by self-activity. His mission is to teach pupils, not subjects. The idea that education can be imparted has been abandoned.

John Dewey, professor of philosophy in Columbia University, points out that education is not an affair of telling and being told, but is an active and constructive process. The student's understanding and retention of a subject are commonly so much less as a result of listening to lectures than by pursuing some of the various methods of learning in which self-activity is a feature. In other words, if we follow the spirit of the idea that it is the student who is doing the learning, and we, as teachers, are aiding them by guidance, stimulation, etc., the more sound will be our work as teachers of medicine.

There is no formal teacher training for medicine. The average medical teacher is selected for his superior knowledge of his subject, and much less for

an equally sound understanding of the methods of teaching. Someone has said that medical education suffers from a "plethora" of authorities on medicine and a "dearth" of teachers.

Most new teachers of medicine adopt methods and procedures which in their experience were effective during their own education. This, of course, is a practical and often efficient method of entering into the practice of medical teaching. Is it not, however, desirable that medical faculties become familiar with the newer philosophy of contemporary education, and utilize whatever part of it may be applicable?

I do not wish to imply that much of our medical teaching is unsuccessful; far from it! Many able physicians have been graduated, many others have become well educated, in spite of the weakness of pedagogy in schools of medicine.

The problem of what is effective teaching includes, of course, the teacher himself. Let us pause a moment and step in the lecture room and see the teacher in action:

Dr. A.—Prosperous, splendid fellow, popular with the students, good story teller; never gives a grade below B; lectures from notes that were good at one time, but now very much in need of vitamin A but not D.

Dr. B.—A walking encyclopedia of medical facts; does all the talking and most of the thinking for his students; complacently accepts and wears the crown of medical authority; but woe to the student who questions any of his pronunciamentos! (May we label him the "Medical Giant"?)

Dr. C.—Young, faultlessly groomed, well qualified, capable, enthusiastic; suffering from transient attacks of lecture room megalomania, with an educational delusion that in order to make the proper impression on his students, he must refrain from discoursing on the common and ordinary variety of medical practice; but must soar aloft, until he is lost in that nebulous medical stratosphere where medical visibility is low, and difficult to separate fact from speculation.

Finally, Dr. D.—Modest, honest, tolerant, sympathetic, studious always; remembers his own difficulties while a student; has a definite conception of his obligation to the student as well as to the patient; keeps himself informed of the advances in his field, and sees that his teaching has a freshness so stimulating that carries somewhat into the student; rarely gives an A—if so, it means something.

Who can predict the gains that may come in the future, if teachers obtain a sound knowledge of the science of teaching, in addition to that of their knowledge of medicine? Some years ago, an interesting criticism was published by the Commission on Medical Education.

First.—There is overcrowding in the schedule of work throughout the medical course.

Second.—Much of the teaching in science courses, both laboratory and theoretical work, does not contribute to a sufficient understanding of the basic sciences upon which intelligent practice of other medical work depends.

Third.—Too much of the clinical teaching is from the standpoint of the specialist and on rare diseases, and not enough from the standpoint of the needs of most patients.

Fourth.—The divided responsibility for the care of patients, and the impersonal attitude so frequently taken towards patients in the hospital and clinic, handicap the preparations of students for the assumption of individual responsibility required in practice, and for the large emotional and psychologic factors in many illnesses.

If my information is correct, this does not apply to us here at Marquette, except in some minor instances. How effective is our teaching? How well does our "stuff" go across? These are questions that every medical teacher would like answered. It would be presumptuous on my part to offer a definite answer. It may be well, however, to offer some discussions on the subject.

A knowledge of the psychology of learning is important to every teacher. For all practical purposes we may divide these fundamental laws of learning into:

1. Interest or Motivation.
2. Attention.
3. Association or Thinking.
4. Repetition.
5. Success.

Time will not permit to discuss fully all of these items. Let us examine, however, some of the very essential laws and note in what way they affect our work as teachers of medicine.

The Law of Interest or Motivation: Learning is directly effective and efficient in proportion to the interest of the learner. Interest in what is to be learned is so significant in effective learning that it is often wise to defer its study until interest is assured. Interest begets attention; without attention success is unlikely to follow. I think it is safe to say that as teachers, most of us have violated this law only too often. May I quote to you what Dr. Irving S. Cutter, dean and professor of medicine at Northwestern University Medical School, has to say in this relation?

"The stimulus and direction given by a wise teacher are often of far greater importance than the subject matter taught. The skilled surgeon is often a poor teacher, largely because of his lack of training in teaching methods under a real clinical leader. Of a given medical faculty, possibly 5 per cent will have natural teaching ability; a large percentage may, however, become excellent teachers through the application of a few elementary principles of pedagogy."

If Dr. Cutter's statement be deemed true, what steps are being taken to remedy the difficulty?

Some of you may say that experience is the most important factor in the development of skill in teaching. Let us not forget that experience without insight is an inefficient means of learning anything. It has been said: "Experience is a good teacher; but it charges a high rate of tuition."

The Law of Association or Thinking: It is said that every student comes under the influence of the famous Dane, Frederik Grundvig, Denmark's great educator (although the latter's name is unknown to him). Grundvig's theme was simple: Too many books, too much doing, too much writing, too little thinking. "What we learn from books is valuable only when we do something with it. What we do is valuable only when we know why we are doing it." At first thought, this sounds like a revolutionary statement. However, the more one reflects on it, the more illuminating it becomes. How much of Grundvig's philosophy is applicable to us here I leave to your own individual judgment.

The Law of Repetition: "The student can absorb and retain only a small portion of his course. Facts as isolated facts, unless correlated, are lost. Teaching in too great detail, to the exclusion of giving a broad conception of the fundamental principles, is educational homicide." Learning inevitably takes place when the student faces problem situations repeated at intervals. It is normal to forget. About 50 per cent is forgotten, or relegated to our subconscious mind, in a few months. The really important facts can be relearned by repetition.

Considerable attention is being given of late to the correlation of the various subjects pertaining to medical education. The graduate in medicine must always remain a student; if not, he will prematurely arrive at that stage of "mental fixation" where progress ceases. It is sad to see so many medical brethren, yes, even some of our bright and promising young graduates, succumb to this insidious affliction. It has been my belief for some time that we, as teachers of the clinical subjects here at Marquette, have not paid enough attention to the correlation of especially the four great cornerstones of medicine: Anatomy, Physiology, Chemistry and Applied Pharmacology.

Anatomy is essentially the foundation of medicine; it is necessary to the understanding of physiology, pathology, medicine and surgery, and at every point should be correlated with those subjects. Only too often do students hear little or nothing of gross anatomy after they leave the anatomical laboratory.

While the formal course of physiology may end with the second year, the teaching and application of physiology to medicine must be continuous and serious, with the teacher of medicine as interpreter of pathologic physiology.

It is needless for me to mention the correlation of that so stimulating, but oh! how often humiliating, subject of pathology. As William Osler so well said, "As is our pathology, so is our practice."

It is my firm conviction that these subjects should be correlated not in the lecture room, but at the bedside, in the operating room, in the dispensary. Strange to say, there are some clinical men who openly advocate placing these in water-tight compartments, unmolested, and there calmly awaiting the day of judgment.

To strengthen my position in this matter, may I quote Dr. Jonathan Campbell Meakins, professor of medicine in McGill University, Montreal. He writes: "It is not the function of the physiologist or of the biochemist to teach so-called

pathological physiology or pathological biochemistry. These subjects essentially fall within the realm of clinical medicine; in fact they are medicine—and the staff of a department of medicine, at the present day, which cannot undertake this teaching is not equipped properly."

Just as long as we clinical teachers ignore the correlation of applied pharmacology, its clinical value in the treatment of disease as well as its limitations, just so long will our graduates continue to be gullible victims for the glib pharmaceutical salesman.

The Law of Success, or, by some called The Law of Effort: Skillful use of the practice of letting the student note his progress, or success, may result in a continuance or even an increase in his efforts to better the result. A kind word, a sympathetic attitude toward the student who has difficulties, will often yield a handsome educational dividend. A striking example of this we find in the student life of Sir James Mackenzie, father of our present day conception of cardiology.

Dr. Mackenzie had difficulty in memorizing, and in his preclinical years found it difficult to pass tests when pure memory was required. He became discouraged; considered himself a dunce and ready to give up. Dr. Brown, associate professor of anatomy, came in contact with him in the dissecting room; noticed and sensed his difficulties. Through his encouragement and guidance, Mackenzie successfully finished his first two years' studies. When he got into the clinical branches, his troubles were over. His career as a physician, investigator and writer forms one of the brightest chapters in medicine of the present era.

I want to make a suggestion to the Executive Faculty that, if in their opinion it is wise, during this coming college year, they invite some noted educators who will lecture to us on applied pedagogy and techniques of teaching—one of these to be a nonmedical man.

In appreciation of your kind forebearance, may I leave with you as a gift, for future meditation, a quotation, which I slightly paraphrased, taken from that charming poem, "To a Louse," by Scotland's favorite poet, Robert Burns:

"O wad same power the giftie gie us,
To see oursels as *students see us:*
It wad frae mony a blunder frae us."

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Ross V. Patterson

We regret to announce the death early in May, from cerebral thrombosis, of Dr. Ross V. Patterson, dean of Jefferson Medical College, his alma mater, for more than 20 years. Death followed an illness of several years duration, during which time Dr. Patterson was more or less incapacitated. At the time of death, he was Prevost professor of therapeutics as well as dean. From 1932 to 1935, Dr. Patterson was chairman of the Executive Council of the Association of American Medical Colleges. He was president from 1933 to 1935. Dr. Patterson was very active in the work of the Association during the years of his incumbency in office but later he was handicapped greatly by illness which taxed his vitality severely and necessitated frequent cessation of all activities. Dr. Patterson was greatly interested in professional organization work and served as president of the Pennsylvania State Medical Society and a member of its Council.

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Educational Conference

Pursuant to a call for a conference made by Dr. Alan M. Chesney, president of the Association of American Medical Colleges, representatives of a number of groups interested in medical education met in Chicago, February 14, to discuss problems of mutual interest. Represented at the meeting were: American Medical Association (Dr. J. H. J. Upham); Council on Medical Education and Hospitals, A.M.A. (Dr. Ray Lyman Wilbur); American Hospital Association (Dr. B. C. Caldwell); Catholic Hospital Association (Rev. Alphonse M. Schwitalla); American Protestant Hospital Association (Mr. Clinton Smith); Federation of State Medical Boards (Dr. J. F. Bowers); Advisory Board on Medical Specialties (Dr. W. C. Rappleye); Dr. Alan M. Chesney and Dr. Fred C. Zapffe, president and secretary, respectively, of the Association of American Medical Colleges.

Among the main topics discussed at this conference were: increasing the entrance requirements to medical colleges to three years of college work; liberalizing the entrance requirements to embrace consideration of subjects taken and scholarship; placing emphasis on flexibility and latitude in arriving at a judgment; medical care of the people and a national supervisory and advisory council to include representation from medical colleges, professional organizations, licensing and examining boards, hospitals and educational organizations.

The discussion on each topic was spirited and illuminating but action was precluded this being only a conference without official status. Opinions as to further conferences of this nature were unanimously in favor of continuance, hence, it is likely that a similar conference will be called in 1939 under the auspices of the Association of American Medical Colleges.

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Licensure Statistics for 1937

The "State Board Number" of the Journal of the American Medical Association, April 23, 1938, presents the results of the examinations for licensure held by the several state boards of the United States. In analyzing these data it must be kept in mind that the number of examinations is at variance with

the number of examinees because a candidate for licensure may have taken the examintion of more than one board. Therefore, neither "passed" nor "failed" reflect how many individuals were concerned. If one graduate took 10 examinations and failed, he is counted as 10 failures. Per contra, another graduate may have taken the examination before 10 state boards and passed all of them. He is counted as 10 passings.

Then, too, the requirement of an internship before graduation or before taking a state board examination precludes the assumption that the examinees of 1937 were—all of them—students who had completed their required college work in 1937. Some of them may have completed their work in 1936 or even in 1935; then served their internship and presented themselves for licensure in 1937. Each medical college listed in the statistics doubtless will analyze the data for themselves on that basis.

The report presents the data on 67 colleges and 5,705 examinations, with 210 failures, or 3.68 per cent. Sixteen colleges, with 1,111 examinations, did not have any failures. The remaining 51 colleges, with 4,594 examinations, had the 210 failures, or 4.57 per cent. Fifty-seven of these 210 failures resulted from 398 examinations, leaving 153 failures among 4,196 examinations, or 3.65 per cent—a very good showing. Furthermore, 132 failures resulted in 1,648 examinations of graduates of 20 colleges charged with more than 5 per cent of failures. The 31 colleges charged with less than 5 per cent of failures are represented by 2,946 examinations and 78 failures.

A detailed analysis of the report shows: Less than 1 per cent of failures, 2 colleges (2 out of 263 examinations); from 1 to 2 per cent of failures, 11 colleges (16 out of 1,057 examinations); from 2 to 3 per cent of failures, 5 colleges (14:592); from 3 to 4 per cent of failures, 7 colleges (31:907); from 4 to 5 per cent of failures, 6 colleges (15:349); from 5 to 6 per cent of failures, 4 colleges (11:196); from 6 to 7 per cent of failures, 7 colleges (32:484); from 7 to 8 per cent, 1 college (4:51); from 8 to 9 per cent of failures, 1 college (5:59); from 9 to 10 per cent of failures, 2 colleges (23:240); from 10 to 11 per cent of failures, 2 colleges (14:134). Three colleges had 13.9, 14.5 and 18.2 per cent, respectively, of failures, a total of 43 failures in 264 examinations.

These results are, on the whole, much better than they were in 1936 when 28 per cent was the highest percentage of failures charged to one school. The number of colleges without failures was the same in 1937 as in 1936 (16) although not the same colleges are concerned. This report, subjected to a careful analysis, should furnish medical colleges with valuable information, especially if data can be secured showing the failures by subjects. The Council on Medical Education and Hospitals of the American Medical Association merits commendation for its good work in making these data available to the colleges.

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Hospital Administrators

The attention of the profession generally has not been drawn to a great degree, if at all, to the existence of what may be termed a specialty in medicine, that of hospital administration. The opportunities for rendering this service are numerous; in fact, hospital administration bids fair to surpass many other specialties in medicine. Although not all of the hospitals in the United States and Canada are at present under the direction of a physician, and comparatively few being under the administration of a competent administrator, one who has specialized in this work by large experience or study or observation, this field offers splendid opportunities today for men who choose this specialty for life's work.

The demands of hospital administration today call for special training or education in many fields other than medicine. Either years of experience or

special study plus special aptitude can make a good hospital administrator. Men now in this field, who have given this problem much thought, are responsible for the creation of the American College of Hospital Administrators which is akin to other so-called "colleges" already existing in the professional field. Its program calls for certain accomplishments which are not now attainable because of lack of educational opportunities. For example: How many medical colleges provide for lectures to the seniors on hospital administration? How many medical students are aware that hospital administration is a specialty in medicine? That adequate preparation is essential for its pursuit? Does not this field provide another opportunity for the medical graduate in which he can and may gain distinction as a specialist?

The Committee on Medical Relations of the American Hospital Association submits this proposition to the medical colleges for consideration. The Committee would like to have every medical college schedule four lectures on hospital administration in the senior year for presentation of the requirements to be met by those who would like to enter this field. At least, these lectures would call attention to this specialty and students would be informed on how to proceed to qualify for this work and for certification by the American College of Hospital Administrators. Hospital administration is of vital importance to adequate care of the sick. Heretofore, it has been regarded largely as a job of financing, buying the best sheets, towels, and everything used and needed in a hospital at the lowest possible price and on the best terms. The hospital administrator has been more or less a financial agent, a manager. Today he must be much more than this. He must be a good manager; a promoter; a money getter—as well as saver; a diplomat and above all, an educator and a top notch physician, one thoroughly conversant with preventive and curative medicine and public health and sanitation. Often he is the only one in a community who is called on to officiate in these capacities. But he must be prepared to solve any and all of the problems arising from the complexity of his activities. Why not, then, a preparatory course in the medical college on hospital administration, one which will call attention to this specialty and give the information needed to qualify for it?

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Army Medical Library and Museum

At the time of this writing, Congress is considering a bill to provide funds needed for the erection of a new building which will house the surgeon general's library and the army medical museum. Every one who has visited the present structure will agree that adequate housing of these two outstanding contributions to medicine, medical literature and medical education is a crying need. Doubtless, Congress will be apprised of this fact and make the needed appropriation.

The Army Medical Library and Museum together offer an unique opportunity to investigators to study the entire literature on a medical subject and then to view the pathological specimens, gross and microscopic, of the subject under consideration. Being the chief depository of medical literature and pathological specimens pertaining to military medicine and surgery, the Library and Museum are of special interest to military and other governmental institutions, including the Army, Navy, Public Health Service, Veterans Administration, and to the medical department of the Reserves and National Guard.

The Army Medical Library and its companion the Army Medical Museum have been instrumental in the development of medical and the associated sciences, the one for one hundred years and the other for seventy-five. The Library is recognized as the central depos-

itory of medical literature and the largest medical library in the world. It is medicine's most priceless possession. It is at the service of every physician, dentist, and veterinarian in America and is extensively used in medical research and education and by associated professions. The Army Medical Museum not only pictures and illustrates many of the important developments of medicine since the early days but contains the largest collection of pathological specimens in the United States. It too is at the service of medicine.

Already overcrowded, a building commensurate with the importance of these two institutions and their service to human welfare is an urgent public need.

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Teachers of Professorial Rank in U. S. Medical Colleges

Of the 15,342 members of the teaching faculties of the medical colleges of the United States, 5,652 are of professorial rank, distributed, according to grade, as follows: Professors, 1,517; associate professors, 1,059; assistant professors, 1,458; clinical professors, 622; associate clinical professors, 406; assistant clinical professors, 590.

Classified according to subjects, these teachers are distributed as follows: Anatomy, 302; bacteriology, 149; biochemistry, 189; dermatology, 156; gynecology and obstetrics, 473; medicine (general), 1,129; neurology and psychiatry, 342; nursing, 6; eye, ear, nose and throat, 462; orthopedic surgery, 175; pathology, 273; pediatrics, 347; pharmacology, 115; physiology, 216; preventive medicine, public health and hygiene, 94; radiology, 145; surgery (general), 868; tropical medicine, 25; urology, 157.

Among the unusual subjects represented are: sanitary chemistry; legal and cultural medicine; medical art; biblical exegesis; statistics; hospital administration; biophysics; entomology; psychopediatrics; maxillofacial surgery.

Attention is called to the fact that in Association headquarters there is a card index in which every teacher of professorial rank is represented by a card giving his name, subject taught, rank and college affiliation—a total of 5,652 cards. Some of these cards are of a buff color which indicates that the name of the teacher is on the mailing list of the JOURNAL. The file serves many useful purposes and is at the service of member colleges.

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Teacher Placement Bureau

The Bureau has requests for placement from a pharmacologist; two pathologists; a biochemist; two anatomists. Wanted: Clinical instructor in obstetrics (woman), salary, $1,200; pharmacologist; bacteriologist, one who has had training in preventive medicine and public health; pathologist.

In the short time of its existence, the Bureau has been able to make placements and to supply teachers. It is filling a great need.

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CORRECTION: The Gerrish Memorial Lecture referred to in the JOURNAL, May, p. 213, was published in the New England Journal of Medicine, Feb. 24, 1938, not February 12 as previously stated.

College News

Louisiana State University
School of Medicine

The new Charity Hospital is well under way. It is planned to have the dedication of the new building in 1939.

The departments of obstetrics and gynecology have been combined with Drs. Carter and Graffagnino as co-directors. Dr. Walter E. Levy is added as clinical professor. There will be four full time teachers in the combined department.

Additions to the department of pathology include Dr. Hugh Page Newbill, specialist in neuropathology, and Dr. Albert E. Casey, formerly professor and head of the department of pathology in St. Louis University School of Medicine.

In preventive medicine and public health, which has been reorganized, will include medical entomology, parasitology and social medicine. Dr. George W. McCoy, Medical Director of the U. S. Public Health Service, will head the department, and other additions include Dr. W. H. Slaughter of the U. S. Public Health Service, Dr. Joseph W. Pasternack of the U. S. Marine Hospital, and Dr. R. W. Todd, Director of the Parish Health Administration. Mr. A. R. Johnson, Director of the State Hospital Board, will serve as special lecturer.

Dr. A. S. Kenney has been appointed full time assistant professor of pediatrics.

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Yale University
Medical School

Abraham White, Ph.D., assistant professor of physiologic chemistry, received the $1,000 prize and bronze medal of Eli Lilly and Company at the ninety-fifth annual session of the American Chemical Society in Dallas April 18 for his work on sulfur metabolism and protein hormones.

Yandell Henderson, Ph.D. will retire as director of the laboratory of applied physiology at the end of the academic year. He will be succeeded by Dr. Howard W. Haggard, associate professor of applied physiology, who also becomes professor.

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McGill University
Faculty of Medicine

Dr. A. H. Gordon, professor of medicine, was elected president of the American Clinical and Cliniatological Society.

The annual convocation was held June 25th.

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University of California
Medical School

PROMOTIONS: J. B. Saunders, associate professor to professor of anatomy; F. W. Allen, instructor to assistant professor of biochemistry; R. J. Reitzel, assistant professor to associate clinical professor of medicine; J. J. Sampson, assistant clinical to associate clinical professor of medicine; S. R. Mettier, assistant to associate professor of medicine; J. B. Lagen, instructor to assistant professor of medicine and pharmacology; P. A. Gliebe, assistant clinical professor of neuropsychiatry to assistant professor of psychiatry; L. R. Taussig, assistant clinical to associate clinical professor of dermatology; M. S. Woolf, assistant clinical to associate clinical professor of surgery; H. B. Stephens, instructor to assistant clinical professor of surgery; G. C. Hensel, instructor to assistant clinical professor of orthopedic surgery; R. C. Martin and L. F. Morrison, assistant clinical to associate clinical professor of otorhinolaryngology; R. S. Stone, associate professor to professor of roentgenology.

J. M. D. Olmsted, professor of pharmacology, is on sabbatical leave until December 31, 1938.

Boston University
School of Medicine

The award of a grant for an indefinite period of time by the permanent Science Fund of the American Academy of Arts and Sciences has been made to Dr. William C. Boyd, assistant professor of biochemistry.

The particular problem to be pursued under this grant is a study of methods of determining blood groups from ancient bone, including a study of 200 specimens of muscle and bone from Egyptian mummies collected while in Egypt recently on a Guggenheim Fellowship. It was the second such grant made to Dr. Boyd for "a comparative study of the blood types of ancient and living Egyptians, the blood types of ancient peoples being determined by the examination of the mummified tissue according to a process discovered by Dr. Boyd. During his first fellowship year Dr. Boyd made a comparative study of the blood types of ancient and living Egyptians and of the people of Southwestern Asia, including Syria, Iraq and Persia.

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University of Maryland
School of Medicine

A bequest of the late Dr. Frank C. Bressler, plus a federal appropriation, makes available $500,000 for a new medical school building. Funds are also in hand to build two additional stories on the hospital and an addition to the Nurses' Home.

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Vanderbilt University
School of Medicine

Dr. A. Stampar, Public Health authority of Belgrade, Jugoslavia, and fellow of the Rockefeller Foundation, came to Vanderbilt on a four months traveling fellowship under the Rockefeller Foundation, visiting leading medical schools to discuss international problems in medicine and public health. Dr. Stampar delivered two lectures: "Rural Health Activties in China" and "Maternal and Infant Welfare in the Soviet Union." He also conducted informal discussions on other topics.

The Vanderbilt University School of Medicine will conduct a medico-military inactive duty training course for Medical Reserve Officers of the Army and Navy in conjunction with its commencement clinic. The course will be similar in character to that so successfully conducted at the Mayo Clinic for the past nine years. It is a combined professional postgraduate course and a conference on medico-military problems. The course this year will be of two days' duration from Junes 6 to 7 inclusive.

Enrollment is open to all reserve officers of the Medical Department of the Army and Navy and to medical officers of the National Guard.

The Wisconsin Clinical Surgical Club was the guest of the Department of Surgery of Vanderbilt University on February 8. The members of the club attended various clinics and operations throughout the day.

Mr. Clay Myers Greer, research associate in pharmacology, has been awarded the prize given by the Committee on International Congresses of the Federation of American Societies for Experimental Biology for the best piece of work presented by anyone in pharmacology with a rank below that of associate professor. This prize consists of a trip to Zurich to the Physiological Congress which will meet in August. The prize was given to Mr. Greer for his work on "Nor-Epinephrine (B—(3,4-Dihydroxyphenyl)—B—Hydroxyethylamine) as a Possible Mediator in the Sympathetic Division of the Autonomic Nervous System."

Dr. W. E. Garrey, professor of physiology, was re-elected president of the American Physiological Society and also president of a national federation of four allied medical-scientific societies of which the American Physiological Society is the oldest of the group.

Dr. W. S. Leathers, dean and professor of preventive medicine and public health, recently appeared before the

House Interstate and Foreign Commerce Committee, strongly advocating the passage of the LaFollette-Bulwinkle bill providing funds for the prevention, treatment and control of venereal disease. Under the provisions of the bill the sum of $3,000,000 would be appropriated during the fiscal year 1939 for the venereal disease campaign, $6,000,000 during the fiscal year 1940, $12,000,000 during the fiscal 1941, and for each of the ten fiscal years thereafter $25,000,000 making a total of $271,000,000 over a period of thirteen years. The campaign is to be under the supervision of the surgeon general of the public health service.

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Western Reserve University
School of Medicine

The Commonwealth Fund has made a three-year grant to Western Reserve University for the Study of Mechanism of Heart Failure, to be expended through Dr. Joseph T. Wearn, professor of medicine.

Dr. T. Wingate Todd, professor of anatomy, has been elected president of the American Association of Physical Anthropologists, and vice-president of the American Association of Anatomists.

Dr. Wilton M. Krogman, associate professor of physical anthropology and anatomy, and a well known anthropologist, has resigned to take up a similar position at the University of Chicago next September.

The Alumni Association of the School has transferred the Charles F. Hoover Memorial Fund to Western Reserve University "so that the income, amounting at present to $350, may be awarded annually to an outstanding student in the School of Medicine as an honor-scholarship, to perpetuate the memory of Dr. Hoover's work in this school." The fund was contributed by friends and pupils of Dr. Charles F. Hoover, professor of medicine at Western Reserve University, from 1909 until his death, June 14, 1927.

Duke University
School of Medicine

Recent events: Dr. Hugh H. Trout, surgeon-in-chief of the Jefferson Hospital, Roanoke, Va., gave a clinic, showing motion pictures of an operation for radical mastectomy.

Vilhjalmur Stefannson, Arctic explorer, gave a lecture on "Diet in Primitive People."

Dr. Harold W. Brown, professor of preventive medicine and public health in the University of North Carolina, lectured on "Hookworm."

Dr. G. H. Whipple, dean of the School of Medicine and Dentistry, University of Rochester, spoke at the meeting of the Duke Chapter of Sigma Pi, his subject being, "Hemoglobin, Plasma Protein and Tissue Proteins; Their Production and Interrelation in the Body."

Miss Elizabeth P. Rice, Director of Medical Social Service, New Haven Hospital, spoke to the medical students on "The Need for Medical Social Service."

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Dalhousie University
Faculty of Medicine

At the 118th convocation held May 17th, the address was delivered by Dr. Fred C. Zapffe, secretary of the Association of American Medical Colleges. Thirty men and one woman received the M.D. degree.

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Jefferson Medical College

Dr. Ross V. Patterson, dean since 1916, died May 2nd, of cerebral thrombosis. Dr. Michael A. Burns, professor of neurology, died in March of coronary disease.

The William Potter Memorial Lecture was delivered by Dr. William Boyd, professor of pathology and bacteriology, University of Toronto, in April. His subject was "Growth, Normal and Abnormal."

The Department for Diseases of the

Chest of the Jefferson Hospital is the recipient of a gift of $5,000 from Mr. Joseph V. Horn, for the purpose of establishing a unit for the surgical treatment of pulmonary tuberculosis.

The latest type of surgical equipment, anesthesia apparatus, and x-ray machinery has been installed. Four rooms have been built, with air conditioning for the post-operative care of these patients.

A fellowship will also be available for a graduate in medicine who is interested in the special study and management of thoracic disease.

The 113th Annual Commencement was held June 3. The valedictory address was delivered by Hon. George W. Maxey, Justice of the Supreme Court of Pennsylvania. His subject was, "The Laws of Life."

In keeping with the progress of postgraduate education, four new residencies have been provided at the Jefferson Hospital. Two of these have been established in the Department of Obstetrics through the beneficence of Dr. P. Brooke Bland, and the residents are already on active duty. A residency is being established in the Department of Medicine and the position will be filled during the ensuing summer. The residency is also on active duty in the Department of Roentgenology and is available for emergency studies in that department. In addition to these is the Fellowship in Diseases of the Chest.

As rapidly as funds can be secured and set aside for this purpose, similar positions will be established in the other clinical departments. These positions are in addition to the fellowships which exist in several departments of fundamental science.

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St. Louis University
School of Medicine

The 120th annual commencement exercises were held June 7th.

Washington University
School of Medicine

The Board of Trustees of the American Medical Association has appointed Dr. E. V. Cowdry, professor of cytology, representative of the Association to the Commission on Standardization of biological stains.

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University of Michigan
Medical School

Dr. Alfred O. Lee, professor of modern languages, has been appointed, in addition, professor of the history of medicine. This appointment is in the College of Literature, Science and the Arts and was granted to Dr. Lee in recognition of the fact that his interest in medical history has led him to include instruction in this subject in his German courses for premedical students and in his course in the sociology of medicine, also given for premedical students.

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State University of Iowa
College of Medicine

Dr. William H. Hale has been appointed professor and head of the department of bacteriology. Dr. Hale has been a member of the like department in Yale University.

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Baylor University
College of Medicine

It is reported that a movement has been initiated to organize a Baylor Foundation with a capital of $5,000,000. The College of Medicine is to be the main beneficiary of the Foundation.

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University of Oklahoma
School of Medicine

Announcement has been made of 20 new appointments with the rank of assistant, instructor and lecturer, thus greatly augmenting the teaching faculty. Many promotions were also made.

Indiana University
School of Medicine

It is reported that a new and simplified machine for improving the blood circulation in diseased legs, in which gangrene is impending, has been developed by the research division of the Indianapolis Medical Center.

Dr. William H. Kennedy, a specialist in radium treatments and an assistant professor, died recently after a long illness.

Indiana laymen had an opportunity recently to attend "medical school" with practicing physicians and surgeons at the sixth annual postgraduate course at the Indiana University Medical center in Indianapolis under the auspices of the university and the Indiana State Medical Association. The five-day course consisted of a series of lectures and clinics which were open to the public.

Another innovation of the short course is the introduction of military medical practices into the schedule. Col. Wilson Carlisle von Kessler, in charge of the U. S. Army medical services in Indiana, has invited 500 medical reserve officers of the state to attend.

Dr. Frank Charles Mann, director of the Division of Experimental Surgery and Pathology of the Mayo Clinic, Rochester, Minn., was the speaker at Indiana University's one hundred ninth annual Commencement, June 13.

The new $600,000 Clinical Building of the Indianapolis unit of the University Medical School was dedicated recently.

Speaking on "Teaching the Medical Student How to Reduce the Cost of Medical Care," Dr. Dean Lewis, professor of surgery at the Johns Hopkins University Medical School and principal speaker at the dedication, commended the university for its beautiful but not ornate new building, saying that ornate hospitals and clinics contribute much to the high cost of medicine. He urged the students to "stand up and say what they think" and to "clear away the unessentials in case histories and get down to salient points."

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University of Virginia
Department of Medicine

On April 19th, a portrait of Dean James Carroll Flippin was presented to the Medical School. The portrait was formally presented by Mr. James B. Black, president of the senior medical class and accepted by the president of the University, Dr. John Lloyd Newcomb. It is the gift of the medical alumni since Dr. Flippin became Dean in 1924 and the graduating class of 1938. The portrait was done by Mr. Alpheus P. Cole of New York City.

The Twenty-first Postgraduate Clinic was held at the Medical School on April 29th. Dr. Emil Novak, of the Johns Hopkins Hospital, spoke on "Gynecological Endocrinology and Organotherapy." The program included, in addition, the following papers by members of the University Faculty: "The Thyroid," by Dr. E. P. Lehman; "The Pancreas," by Dr. H. B. Mulholland; "Chemical Advances in Endocrinology," by Dr. Alfred Chanutin; "The Adrenals," by Dr. Edward Corey, and "The Pituitary," by Dr. J. M. Meredith. Eighty physicians were registered for this clinic.

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University of Illinois
College of Medicine

The John and Mary Markle Foundation of New York City has made a grant of $10,000 for a three year period to carry on research work on neurophysiology under the supervision of Dr. Ernst Gellhorn, professor of physiology.

Arvid Lindau, professor of general pathology and bacteriology, University of Lund, delivered a lecture recently on the subject "Pathogenesis of Peptic Ulcer." This was one of the Swedish Tercentenary Lectures sponsored by the

American Scandinavian Foundation. These lectures are being given in the United States during the academic year 1937-1938 in celebration of the 300th anniversary of the founding of New Sweden, the first colony established on the Delaware.

Dr. F. G. Benedict, director of the Nutrition Laboratory of the Carnegie Institute, delivered a lecture on the subject "Animal Metabolism—Mouse to Elephant." This lecture was sponsored by the National Society of Sigma Xi and was held under the auspices of the Graduate School of the University of Illinois.

Dr. W. M. Stanley of the Rockefeller Institute, delivered a lecture on the subject "Recent Advances in the Study of Viruses." This lecture was held under the auspices of the National Society of Sigma Xi.

Dr. Maud Slye of the University of Chicago delivered a lecture on "Studies in Cancer." This lecture was given under the auspices of Alpha Omega Alpha, honorary medical fraternity.

The Board of Trustees of the University of Illinois has appropriated $5,000 for shelving and equipment to provide additional facilities for the housing of the Hertzler and Pusey gifts to the Medical Library. The Hertzler collection consists of 7,000 volumes and 8,000 separates on surgery and surgical pathology; the Pusey collection consists of 1,500 selected books and numerous separates and reports in the field of dermatology.

A program of physical education for students in the colleges of medicine, dentistry and pharmacy is being promoted. Two tennis courts and an athletic field have been provided. Tennis, soft ball, horseshoes, archery, fencing and swimming are now offered to the students.

An artist, under a W.P.A. Art Project, is working on the statues of Aesculapius and Hygeia. These statues are to be erected in the archways between the Library of the College of Medicine and the Educational and Research Hospital. Certain expenses in connection with the erection and installation are being met by the University and by the alumni and alumnae of the College of Medicine.

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Woman's Medical College of Pennsylvania

The Woman's Medical College of Pennsylvania celebrated Founder's Day March 11, 1938. This year marked the eighty-eighth anniversary of the founding of the college. Alumnae present in person and represented by letters spanned the period from 1874 to 1937. The guest of honor was Dr. Kate Campbell Hurd-Mead of Haddam, Connecticut, representing the Class of 1888, which is celebrating this year its golden anniversary. Dr. Mead has recently published "A History of Women in Medicine," an account of medical women from the earliest times to the end of the eighteenth century.

Recent events and lectures delivered at the college include:

Dr. Elise L'Esperance of New York City, on "Irradiation Therapy." Dr. L'Esperance has accepted appointment as Special Lecturer at the Woman's Medical College in the Department of Gynaecology.

Dr. Jean Broadhurst of Teachers College, Columbia University, on "Virus Inclusion Bodies in Measles and Scarlet Fever."

A conference on the subject of "Opportunities for Women in the Medical Profession and the Selection of Medical Students."

Dr. Sanford B. Larkey, of Johns Hopkins University, addressed the Woman's Medical College Branch of the Association of Medical Students, on "Elizabethan Medicine and Its Social Aspects."

Dr. Arvid Lindau, professor of general pathology and bacteriology at the University of Lund, Sweden, addressed

the faculty and students on the subject of the "Pathogenesis of Peptic Ulcer."

The annual Alpha Omega Alpha Lecture was delivered at the Woman's Medical College by Dr. Anton J. Carlson, professor of physiology, at the University of Chicago. Dr. Carlson's subject was "Government Medicine and Public Health."

Dr. Alice Hamilton addressed the third year students at the Woman's Medical College on "Industrial Toxicology." This series of lectures is a part of the required third year course in Industrial Hygiene of the Department of Preventive Medicine. In the same course on April 22, Dr. Roy Jones, of the United States Department of Labor, lectured on "Occupational Disease and Industrial Compensation."

Dr. C. C. Pierce of the United States Public Health Service addressed the third and fourth year Medical-Pathological Conference, on the public health program for control of venereal diseases.

Dr. S. A. White, Director of the Chemical Research Division of the War Department, lectured to the third and fourth year students on poison gases used in warfare. This lecture was held at the Philadelphia General Hospital under the auspices of the Department of Therapeutics.

Dr. Lida Stewart Cogill, professor of obstetrics for the past fifteen years, will retire from active service at the close of the current college year. Dr. Ann Gray Taylor, clinical professor of obstetrics, has been promoted to succeed Dr. Cogill as professor of obstetrics and head of the department.

Dr. Henry Draper Jump, professor of applied therapeutics and clinical medicine, will also retire at the close of this session. Dr. Frieda Baumann, associate professor of applied therapeutics, has been promoted to succeed Dr. Jump as professor of applied therapeutics.

The department of pharmacology, reorganized in 1935 under the direction of the department of applied therapeutics, has been made an independent department and will continue under the direction of Ben King Harned, Ph.D., professor of pharmacology.

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University of Vermont
College of Medicine

Membership in the Osler Society, a student organization, is open to all students in the College of Medicine. The society concerns itself chiefly with the ethical, economic, social, humanistic and educational aspects of medicine. It tends to foster among the students a more complete understanding of the history and tradition of medicine and the problems of the medical profession.

Each year the society sponsors a series of lectures on subjects of paramount importance to the medical student and the physician. In this way the student has an opportunity of hearing the opinions and the advice of some of the leading men in the profession.

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Hahnemann Medical College

May 2nd work was begun on the first unit of the new building which will occupy the site of the old building. This unit will contain an auditorium with a seating capacity of about 1,100 persons, lecture rooms and departmental quarters. (See cut elsewhere in this issue.)

This building is part of the medical center which Hahnemann plans to build.

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University of Georgia

At the Crawford W. Long Day celebration, Dr. George A. Traylor, Augusta, president of the Medical Association of Georgia, gave an address. The prize of $25 offered by the Crawford W. Long Memorial Association to the undergraduate student of the university presenting the best paper on the subject "Why I Wish to Be a Doctor" was awarded to Mr. William Russell, Athens.

Meharry Medical College

Dr. John J. Mullowney, for many years president of Meharry, has resigned. He will be succeeded by Dr. Edward L. Turner, for the past two years professor of medicine, with Dr. Michael J. Bent, professor of bacteriology, an assistant dean. It is planned to develop Meharry to the end that it will become a Negro Medical Center. Many Meharry graduates are now on fellowships in preparation to assuming full time teaching positions in Meharry.

From May 23 to June 4, a special two weeks course for physicians was held, conducted by the staff of the College and visiting speakers from Vanderbilt University School of Medicine. The course was well attended.

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University of Alabama
School of Medicine

New appointments: Dr. Charles Mayo Goss, professor of anatomy to succeed Dr. Philip B. Armstrong, now at Syracuse. Dr. Goss was associate professor of anatomy in Columbia University.

Dr. Austin Louis Joyner, assistant professor of bacteriology and pathology, succeeding Dr. H. K. Fidler. Dr. Joyner comes from the Rockefeller Institute.

Dr. Stuart Anderson Peoples, assistant professor of physiology and pharmacology, succeeding Dr. John H. Ferguson. Dr. Peoples comes from the University of Louisville.

Dr. Irl Richard Long, instructor in physiological chemistry and medicine and assistant on the University Student Health Service.

It is reported that the Rockefeller and Carnegie Foundations have given $10,000,000 for the construction of a Medical Center at Tuscaloosa in conjunction with the University of Alabama and the Alabama State Mental Hospital. The establishment of a full four years School of Medicine is said to be under consideration.

University of Toronto
Faculty of Medicine

Awards of Prizes and Medals for 1937-1938:

Sixth Year: Faculty gold medal, A. Goggie; faculty silver medal, E. B. Tovee and M. E. Borsook; Ellen Mickle fellowship, A. Goggie; Chappell prize in clinical medicine, A. Goggie; William John Hendry memorial scholarship in obstetrics and gynecology, W. E. Apted; Ontario Medical Association prize in preventive medicine, E. B. Tovee; David Dunlap memorial scholarship, A. A. K. Bochner.

Undergraduate: David Dunlap memorial scholarships—(a) 5th year, D. H. Copp; (b) 3d year, G. R. Walker and R. Winter; Ronald S. Saddington medal in pathology, T. A. Fraser; James H. Richardson research fellowship in anatomy, F. Richardson; Toronto Women's League of the United Synagogue, H. H. Fireman.

Graduate: Reeve Prize, Dr. C. G. Smith; Starr Gold Medal, Dr. M. O. Klotz; Alexander McPhedran research fellowship on clinical medicine, Dr. J. L. A. Fowler; Perry Goldsmith prize in otolaryngology, G. W. McGregor; J. J. Mackenzie fellowship in pathology and bacteriology, Dr. C. L. Burke.

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New York University
College of Medicine

NEW APPOINTMENTS:

Dr. Howard Fox, who retires as professor of dermatology and syphilology, was appointed professor emeritus. Dr. Fox has been associated with the medical college since 1925.

Dr. William Smith Tillett, professor of bacteriology, was appointed professor of medicine to succeed the late Dr. John Wyckoff.

PROMOTIONS:

Dr. Thomas A. Gonzales, associate professor of forensic medicine, promoted to professor of forensic medicine. Dr. Gonzales is the Chief Medical Examiner of the City of New York.

Wendell J. S. Krieg, Ph.D., from instructor to assistant professor of anatomy.

David Wechsler, Ph.D., from instructor to assistant clinical professor of psychiatry.

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University of Rochester
School of Medicine

The establishment of an annual prize of $100 to be known as "The Cushing Prize for the History of Medicine" has been announced by the Library Committee of the University of Rochester School of Medicine and Dentistry. The prize has been named in honor of Dr. Harvey Cushing in acknowledgment of his contributions to the history of medicine and of his interest in many departments of the School of Medicine and Dentistry. It will be awarded annually to that student in the Rochester medical school who submits the best essay on a topic connected with the history of medicine. The first recipient of the award, Miss Jean Captain, Montclair, N. J., wrote on "A History of the Classification of Human Blood Corpuscles."

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Medical College of Virginia

The Centennial Exercises were held June 7th. The principal address was delivered by Dr. Henry R. Christian, Hersey professor of the theory and practice of physic, Harvard Medical School.

Dr. George R. Minot, professor of medicine, Harvard Medical School, delivered the Stuart McGuire lecture as the fourth and final symposium of the series commemorating the Centennial of the college. The climax of the centennial celebration came at the commencement, June 7, when Dr. Henry A. Christian, Hersey professor of medicine, Harvard Medical School, was the main speaker. Mr. J. Rion McKissick, president of the University of South Carolina, delivered the commencement address.

General News

Rockefeller Foundation Endows Chair of Neurosurgery

About $50,000 has been granted by the Rockefeller Foundation to the Medical School of the University of Paris to establish a chair in neurosurgery. The first occupant of this chair will be Dr. Clovis Vincent. Unable to secure beds in the public hospitals of Paris, Dr. Vincent organized his own hospital, where more than 600 brain operations were performed in 1937. With the cooperation of the public hospital authorities, he will now have wards at his diposal for neurosurgical work.

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Student Exchanges Abroad

Former President Hoover, in an address delivered in New York, proposed that the countries which owe this government relief debts should be permitted to erase them by depositing in home banks money to finance a wholesale exchange of students and professors between themselves and the United States. Were this plan adopted about $141,000,000 would thus be provided for international education exchange.

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New Clinical Shaker

Laboratory workers will find the clinical shaker manufactured by the Fisher Scientific Company, Pittsburgh, very handy and useful. It combines the hemocytometer pipet shaker and the Kahn tube shaker. The apparatus is described and illustrated in "The Laboratory," the house organ of the Fisher Company. Other new apparatus described are: heads for rubber stoppers; quintangular stand; mechanical thermometer; Alnico magnet and Neoprene gloves and rubber tubing. A copy of this publication can be had for the asking.

Board of Anesthesiology

The American Board of Anesthesiology has been organized as an affiliate of the American Board of Surgery in response to many requests to establish official recognition of physicians competent to practice and teach anesthesiology as a specialty. The affiliation was approved by the Advisory Board for Medical Specialties in February 1938. Cooperating societies include the Section on Surgery of the American Medical Association, American Society of Anesthetists, Inc., and the American Society of Regional Anesthesia, Inc. The term of membership on the new board will be six years. Present members are Drs. Thomas Drysdale Buchanan, New York, president; Henry S. Ruth, Philadelphia, vice president; Paul M. Wood, New York, secretary-treasurer; John S. Lundy, Rochester, Minn.; Emery A. Rovenstine, New York; Harry Boyd Stewart, Tulsa, Okla.; Ralph M. Tovell, Hartford, Conn.; Ralph M. Waters, Madison, and Philip D. Woodbridge, Boston.

The first examination will be held in New York City, October 21. Requests for booklets of information and application blanks should be addressed to the secretary, Dr. Paul M. Wood, 745 Fifth Avenue, New York.

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Foreign Graduates Serving Internships

The Council on Medical Education and Hospitals has ruled that approval will be withdrawn from any hospital now approved which accepts as interns graduates of foreign medical colleges who have not passed Parts I and II of the National Board of Medical Examiners. The National Board recently held an examination for graduates affected by this ruling.

Indiana Board Ruling on Foreign Graduates

The Indiana State Board of Medical Registration and Examinations has ruled that on and after January 1, 1938, graduates of foreign medical schools must conform to the premedical requirements of the Board, to curricular requirements; must have graduated from a medical college approved by the Board and must have a license to practice in the country wherein the school is located or in his native country. Furthermore, these applicants must present evidence of having repeated the senior year in a medical college of the United States and of graduation from that school.

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Bryn Mawr Fund

The Bryn Mawr Fund for Investigation of Chronic Arthritis was established with an annonymous gift of $30,000. It will be used at the Bryn Mawr Hospital and the University of Pennsylvania School of Medicine and must be spent within the next three years at the rate of $10,000 a year. The fund will be administered by a committee consisting of Dr. George D. Wagoner, Haverford, director, laboratory of research orthopedics, in the medical school; Dr. Thomas Klein of the Bryn Mawr Hospital staff and professor of clinical medicine, Temple University School of Medicine; Dr. MacKinnon Ellis of the hospital staff; Dr. Max M. Strumia, pathologist at the hospital, and Dr. George Wilson. The hospital opened a clinic on arthritis May 10 to continue every Tuesday.

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International Academy of Postgraduate Medicine

In August, 1937, the German State Organization for Postgraduate Medicine, at an annual congress held in Berlin, in which delegates from 44 nations participated, decided to found an International Academy of Postgraduate Medicine. At a meeting held in March, 1938, at Budapest, Hungary, this Academy was formally constituted. Professor Borst, pathologist, of Munich, was elected president; Professor Adam, director of the Kaiserin Friedrich Haus, Berlin, was elected secretary.

The objects of the Academy are: (1) To arrange for an international congress on postgraduate medical education to be held every four years; (2) To render available to all nations the most recent results of scientific research and medical experience; (3) To provide for postgraduate training of doctors in all countries and to furnish information to authorities and organizations working in the field of hygiene and public health. It is hoped that the establishment of the Academy will benefit the health of every nation and simultaneously advance international friendship and collaboration among the medical profession in all countries.

In 1909, a similar body was organized at the sixteenth International Congress of Medicine and Professor Waldeyer of Berlin was elected president. A meeting was held in London in 1913. The World War came and no further meetings were held.

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Patterson Fellowship and Teaching Fund

Dr. Ross V. Patterson, late dean of Jefferson Medical College, in his will set up two trust funds of $60,000 each and one fund for $30,000, which, on the deaths of the beneficiaries, will be used for the Patterson Fellowship and Teaching Fund. The income will go to "graduates whose records indicate ability beyond the average, to make possible to them further medical study, investigation and training, the better to fit them for careers in the practice of medicine, in medical teaching, in public health service or in research." The recipients are to be known as "Patterson Fellows." It is also stipulated that the fund be used to pay salaries of full time teachers in the Training School for Nurses of the Jefferson Hospital.

Abstracts of Current Literature

Qualifications and Preparation of Health Officers

It is advisable to recommend that all persons looking forward to a career as a public health officer should obtain a medical degree prior to postgraduate instruction in public health.

Whether or not a candidate possesses a medical degree, he must supplement his general background by the technical training furnished by a postgraduate course in public health if he is to become fully qualified. The subjects usually required in schools of public health are biostatistics, epidemiology, public health administration, public health bacteriology, sanitation of water, sewage and foods, communicable diseases and nutrition. In addition, instruction should be given in mental hygiene, health education, governmental organization, and social work. Subsequent to intramural instruction there should be practical field instruction in a well organized health department under adequate supervision.

It would be ideal if all states and local communities could now require a full year of postgraduate study as a qualification for health officers. It should be required by all states at least for the professional personnel of their central organizations. For small cities and rural areas, however, a reasonably efficient full-time public health service may be developed by the employment of medical graduates who have received shorter postgraduate instruction. Such short courses may take the form of orientation in all the important phases of public health work, or they may cover the work of one term in a course leading to a certificate or master's degree in public health. The orientation type of course is also valuable for physicians who have acted as health officers for a number of years without previous academic instruction in public health, but who are too old to be admitted to courses covering a full academic year. Younger men who take such an orientation course should be given the benefit of a full year of postgraduate instruction at a later time if their record of service warrants it.

The present educational needs for the professional preparation of health officers in this country include both an improvement and expansion of the facilities for extended postgraduate study and a continuation and strengthening of short courses of instruction. As the immediate demand for full-time health service becomes satisfied, the shorter periods of instruction will be replaced by courses of adequate length, and every effort should be made to hasten this development.

Meanwhile, replacement of nonprofessional health officers should be encouraged, minimum standards should be given to communities which will assist them in improving and stabilizing their public health personnel. States can encourage their local communities along these lines by enacting legislation requiring the appointment of qualified personnel, by educating local governing bodies, and by subsidizing full-time local health service.—MELENEY, HENRY E., *Am. J. Public Health,* 28:423-429 (Apr.) 1938.

Book News

Textbook of Clinical Pathology

Edited by Roy R. Kracke, M.D., Professor of Pathology, Bacteriology and Clinical Pathology, Emory University School of Medicine. Written by twelve contributors. William Wood & Company, Baltimore. 1938. Price, $6.

An ideal practical text and reference book, covering completely the details of tests and examinations and the most modern methods used in up-to-date clinical pathology for diagnostic purposes. A practical manual and guide for the physician who does all or some of his own laboratory work, as well as for laboratory workers generally and students. The abundant illustrations include many helpful color plates.

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Essentials of Psychiatry

By George W. Henry, M.D., Associate Professor of Psychiatry, Cornell University Medical College. 3d Ed. Williams & Wilkins Company, Baltimore. 1938. Price, $5.

A clear concise and practical introduction to a difficult and still not fully explored or defined field. Its value to students is obvious.

This is not a book on diagnosis nor intended for expert psychiatrists. To physicians generally and students especially it conveys sound information as to the essentials of psychiatry.

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Men Past Forty

By A. F. Niemoeller, with a foreword by Winfield Scott Pugh, M.D. Harvest House, New York. 1938. Price, $2.

Discusses impotence and rejuvenation, especially treatment, in simple, easily understood language. Every layman, young and old, can profit from carefully reading this book. It is sound and timely.

Textbook of Pathology: An Introduction to Medicine

By William Boyd, M.D., Professor of Pathology and Bacteriology, University of Toronto. 3d Ed. Lea & Febiger, Philadelphia. 1938. Price, $10.

An ideal introduction to medicine and surgery, helping the student to grasp the fundamental principles and the clinician to correct any possible misconceptions and to review the advances. The author's unusually attractive style clarifies the subject and makes his book an outstanding contribution to medical literature.

Much new material has been added. A section on sudden death has been added, the anemias and the pneumonias have been reclassified and the general discussion of the viruses has been rewritten. A new feature is a descriptive outline of each organ in the state of health.

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Textbook of Pharmaceutics

By Arthur O. Bentley, Pharmaceutical Chemist; head of the School of Pharmacy, University College of Nottingham, England. 4th Ed. William Wood & Company, Baltimore. 1938.

A book for pharmacists; based on the British Pharmacopeia.

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Workbook in Elementary Diagnosis for Teaching Clinical History Recording and Physical Diagnosis

By Logan Clendening, M.D., Professor of Clinical Medicine, University of Kansas. C. V. Mosby Company, St. Louis, Missouri. 1938. Price, $1.50.

This is a book the student can hardly do without. It clarifies and simplifies physical diagnosis, which the author prefers to term elementary diagnosis; makes extensive use of tabulations and presents many helpful illustrations. The book is unique in this field.

Clinical Chemistry in Practical Medicine

By C. P. Stewart, Lecturer in Biochemistry, and D. M. Dunlop, Christison Professor of Therapeutics and Clinical Medicine, University of Edinburgh. 2d. Ed. William Wood & Company, Baltimore, 1938. Price, $4.

A very handy little book, presenting the important and useful tests clearly and concisely. A good book for the student.

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Claude Bernard: Physiologist

By J. M. D. Olmsted, Professor of Physiology, University of California. Harper & Brothers, New York. 1938. Price, $4.

Presents the discoveries of Bernard; his method; his attitude toward the mystery of life. The only book length biography of Bernard appearing in English during the present century. A fascinating story of the life and works of a great man. Reads like a novel.

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Internships and Residencies in New York City, 1934-1937. Their Place in Medical Education

Report by the New York Committee on the Study of Hospital Internships and Residencies. Jean Alonzo Curran, M.D., Executive Secretary. The Commonwealth Fund, New York. 1938. Price, $2.50.

In view of the importance of internships and residencies in the program of medical education, a study of their educational aspects has long been needed.

Aided by a grant from the Commonwealth Fund, the five medical schools of New York City (the College of Physicians and Surgeons of Columbia University, Cornell University Medical College, Long Island College of Medicine, New York Medical College and Flower Hospital, and New York University College of Medicine) and the New York Academy of Medicine set up the New York Committee on the Study of Hospital Internships and Residencies. There were 1,760 internships and residencies approved by the American Medical Association in the seventy-seven hospitals participating in this study.

The nation-wide importance of the study is indicated by the fact that the hospitals of New York City offer more than one-sixth of all internships and residencies of the entire country. Many students from medical schools in all parts of the country intern in New York hospitals. Since the practices of these hospitals are presumably representative of those in other places, this regional study will contribute to the understanding throughout the country of the function of internships and residencies in medical education.

The vast amount of information presented in this report is so valuable that careful reading is needed to derive profit. Hospitals, especially, should have a lively interest in it because it definitely points the way for better opportunities for intern training and set-ups of educational programs which will lift the internship out of the "orderly" class. This is a real worth while contribution to medical education.

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Athletic Injuries

By Augustus Thorndike, Jr., M.D., Assistant in Surgery, Harvard Medical School. Lea & Febiger, Philadelphia. 1938. Price, $3.

This work reflects the author's experience as surgeon in the Department of Hygiene at Harvard University. The book will be invaluable to all who deal with athletic training. It presents the factors incident to the prevention of athletic injury, it describes the different types of injury and their pathological nature and it is concluded with a concise description of the diagnosis and the treatment of practically every injury which may occur as a result of participation in sports. This final section is, therefore, an invaluable source of reference to everyone responsible for the prevention and care of athletic injuries.

Pediatric Surgery

By Edward C. Brenner, M.D., Director of Surgery, Riker's Island Hospital; Associate Professor of Clinical Surgery, New York Post Graduate Medical School. Lea & Febiger, Philadelphia. 1938. Price, $10.

This volume is largely based on the author's lectures. He has restricted himself to material of practical value, discussing the important common pathologies but omitting orthopedic conditions. The book emphasizes the conditions peculiar to infants and children, with special attention to diagnoses, indications for operations, surgical therapy and the end-results. Many operations are described in detail and the essentials of pre- and post-operative treatment are included. The procedures recommended are in all cases based on approved methods or those evolved from the writer's experience.

Various specialists, each of whom covers a topic in the treatment of which he is a recognized authority, contributes. Thus, Dr. T. D. Buchanan discusses the selection and administration of anesthetics; Dr. L. J. Unger, blood transfusion; Dr. H. S. Vaughan, cleft lip and palate; Dr. L. R. Davidson, thoracic surgery, and Dr. John E. Scarff, neurologic surgery. In its entirety this book reflects the best knowledge and latest practice in its field. It should have ready appeal to the surgeon who specializes in this field.

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Practice of Urology

By Leon Herman, M.D., Professor of Urology, University of Pennsylvania Graduate School of Medicine. W. B. Saunders Company, Philadelphia. 1938. Price, $10.

A practical treatise intended for the general practitioner and surgeon, and for any student who can devote time to the pursuit of a specialty during his undergraduate years. For the undergraduate course in urology, it is too complete and extensive.

Textbook of Pathology

Edited by E. T. Bell, M.D., Professor of Pathology, University of Minnesota. 3d Ed. Lea & Febiger, Philadelphia. 1938. Price, $9.50.

This is a cooperative work, each of the five contributors presenting that department of the subject in which he is a recognized specialist. The text is well balanced, comprehensive, authoritative and effective. It is uniform in its point of view, its nomenclature and its methods. The illustrations are original, the arrangement is simple and throughout the authors present the subject as a living science of the nature and causes of disease on which all successful practice of medicine must ultimately be based.

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Pharmaceutical Latin

By Jacob S. Dorfman, Assistant Professor of Pharmacy, Columbia University. 2d. Ed. Thoroughly Revised. Lea & Febiger, Philadelphia. 1938. Price, $2.

It is increasingly true that students in scientific schools have little or no elementary Latin in their high school work and the need for such a volume as this becomes correspondingly imperative. The author believes that prescription writing should not be undertaken before the student has acquired a thorough understanding of the structure of nomenclature. Without the rudiments of Latin it is practically impossible to learn the pharmaceutical terminology and it is obvious that Latin plays an intricate part in pharmaceutical education. The value of the book is enhanced by the inclusion of Latin titles of significance mentioned in foreign pharmacopœiæ, classified lists of pharmaceutical phrases and comprehensive Latin-English and English-Latin vocabularies.

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NOTE: The Appleton-Century Company announces that the price of Kolmer's Approved Laboratory Technique is $8.50, not $10. as stated in the May issue of the JOURNAL.

Essentials of Obstetrical and Gynecological Pathology: With Clinical Correlation

By Marion Douglas, M.D., and Robert L. Faulkner, M.D., Assistant Professor and Senior Clinical Instructor in Gynecology, respectively, in Western Reserve University School of Medicine. The C. V. Mosby Company, St. Louis. 1938. Price, $4.75.

This is a manual which the student will find helpful in gaining useful knowledge, with clinical application, of the pathology of the structures from the lower genital tract of woman upward. The text is easily read and understood and well illuminated by numerous fine drawings and photomicrographs which are reproduced most commendably. The text is not all inclusive but it does present all the essential pathology which the student of gynecology and obstetrics must know.

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Cause and Prevention of Disease

By William Harvey Perkins, M.D., Professor and Director of the Department of Preventive Medicine, Tulane University of Louisiana. Lea & Febiger, Phladelphia. 1938. Price, $7.50.

This work is an important contribution to the practice of preventive medicine. As the preventive point of view comes more and more to dominate the approach to medical service, the etiology of disease assumes a corresponding importance. The author holds that since every disease must result from an ascertainable cause, the natural laws under which it operates can also be determined. In this work he has systematized what is known of the causes and origins of disease and has supplied in a single volume the material that embraces all that is required for an inclusive review of the etiologic factors of disease and ill health, clarifying and enlarging previous conceptions.

The author sums up his philosophy of the practice of preventive medicine in a single phrase—"To oppose or intercept a cause is to prevent or dissipate effects." This book is a step towards putting this principle into immediate and practical effect wherever and whenever the causes of disease have been revealed. It contains not only the few current applications of preventive principles but it suggests other applications which may be accepted in the future. The various categorical causes of disease—inherited factors, the defects of nutritive elements, the poisons and intoxications which result from exogenous chemical agents are listed and the specific defenses against them are indicated. Similarly, physical forces and energies, the processes and effects are all considered with their corresponding defenses. The result is a splendidly organized body of material which assembles and extends the preventive knowledge at present applied in medical practice.

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The Infant: A Handbook of Modern Treatment

By Eric Pritchard, M.D., Consulting Physician to the Queen's Hospital for Children, etc., London. William Wood & Company, Baltimore. 1938. Price, $6.

The author stresses the fact that this is not a textbook or dictionary of treatment; it is a handbook for occasional reference. Apart from treatment, the book has nothing whatever to do with diseases of infants, and the treatment described is the one which the author favors. Only one method of treatment is described; choice of selection is not possible. Furthermore, "infants" means patients not over five years of age. Discussions are avoided; in other words, this is a record of the author's views and practice in the treatment of diseases which afflict the very young. Nevertheless, it contains much of value; it is written in an appealing and easily understood style. One may not agree with the procedures related, and one may object to the use of so many proprietary preparations and drugs, but, on the whole, the book is interesting and should attract the student and especially the young practitioner.